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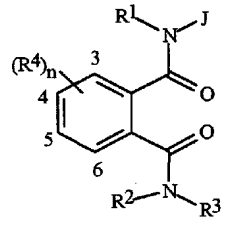
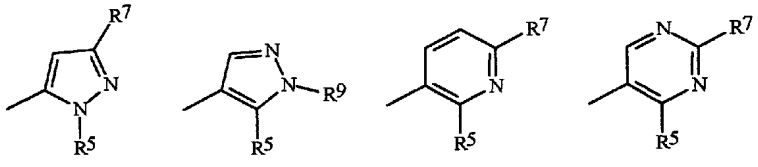
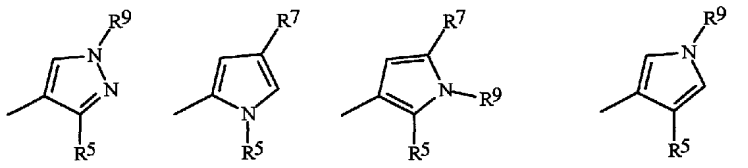
(54) Title: SUBSTITUTED HETEROCYCLIC PHTHALIC ACID DIAMIDE ARTHROPODICIDES



(I)



J-1 J-2 J-3 J-4



J-5 J-6 J-7 J-8

(II)

(57) Abstract: Compounds of (I), and their N-oxides and agriculturally suitable salts, are disclosed which are useful for controlling invertebrate pests (Formula)wherein J is selected from the group consisting of J-1, J-2, J-3, J-4, J-5, J-6, J-7 and J-8 (I)and R1, R2, R3, R4, R5, R7, R9 and n are as defined in the disclosure.Also disclosed are compositions for controlling an invertebrate pest comprising a biologically effective amount of a compound of (I) and methods for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound of (I) (e.g., as a composition described herein).

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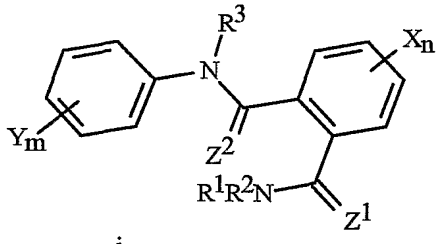
SUBSTITUTED HETEROCYCLIC PHTHALIC ACID DIAMIDE ARTHROPODICIDES

BACKGROUND OF THE INVENTION

This invention relates to certain heterocyclic phthalic acid diamides, their *N*-oxides, agriculturally suitable salts and compositions, and methods of their use as arthropodicides in both agronomic and nonagronomic environments.

The control of invetebrate pests is extremely important in achieving high crop efficiency. Damage by invertebrate pests to growing and stored agronomic crops can cause significant reduction in productivity and thereby result in increased costs to the consumer. The control of invertebrate pests in forestry, greenhouse crops, ornamentals, nursery crops, stored food and fiber products, livestock, household, and public and animal health is also important. Many products are commercially available for these purposes, but the need continues for new compounds that are more effective, less costly, less toxic, environmentally safer or have different modes of action.

EP919542 discloses phthalic acid diamides of Formula i as insecticides



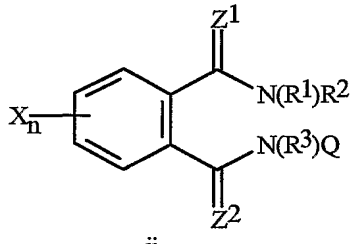
i

wherein, inter alia,

Z^1 and Z^2 are O or S; and

R^1, R^2 and R^3 are, among others, H, alkyl or substituted alkyl.

WO01/02354 discloses phthalic acid diamides of Formula ii as insecticides



ii

wherein, inter alia,

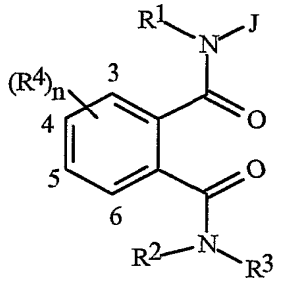
Q is an optionally substituted heterocycle containing O, S or N;

Z^1 and Z^2 are O or S; and

R^1, R^2 and R^3 are, among others, H, alkyl or substituted alkyl.

SUMMARY OF THE INVENTION

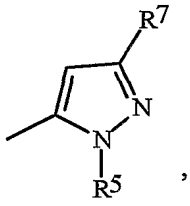
This invention pertains to compounds of Formula I and *N*-oxides and agriculturally suitable salts thereof



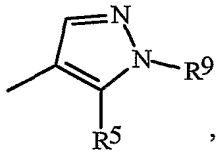
I

wherein

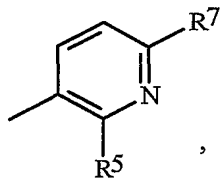
J is selected from the group consisting of J-1, J-2, J-3, J-4, J-5, J-6, J-7 and J-8



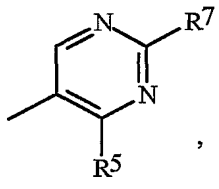
J-1



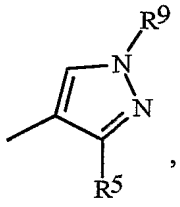
J-2



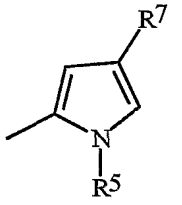
J-3



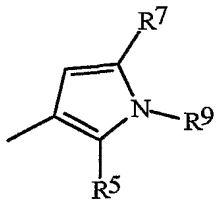
J-4



J-5

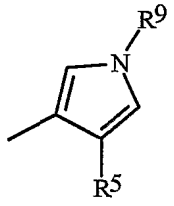


J-6



J-7

and



J-8

;

R^1 is H, C_1-C_6 alkyl, C_2-C_6 alkoxycarbonyl or C_2-C_6 alkylcarbonyl;

R^2 is H or C_1-C_6 alkyl;

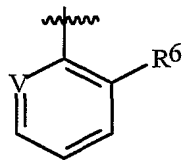
R^3 is H; C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, or C_4-C_8 cycloalkylalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO_2, hydroxy, C_1-C_4 alkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_2-C_6 alkoxycarbonyl or C_2-C_6 alkylcarbonyl;

one R^4 group is attached to the phenyl ring at the 3-position or 6-position, and said R^4 is C_1-C_4 alkyl, C_1-C_4 haloalkyl, halogen, CN, NO_2, C_1-C_4 alkoxy, C_1-C_4

haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylthio, C_1-C_4 haloalkylsulfinyl, or C_1-C_4 haloalkylsulfonyl; and

an optional second R^4 is H, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_1-C_6 haloalkyl, C_2-C_6 haloalkenyl, C_2-C_6 haloalkynyl, C_3-C_6 halocycloalkyl, halogen, CN, NO_2, hydroxy, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylthio, C_1-C_4 haloalkylsulfinyl, C_1-C_4 haloalkylsulfonyl, C_1-C_4 alkylamino, C_2-C_8 dialkylamino, C_3-C_6 cycloalkylamino, C_1–C_4 alkoxyalkyl, C_1–C_4 hydroxyalkyl, $C(O)R^{10}$, CO_2R^{10}, $C(O)NR^{10}R^{11}$, $NR^{10}R^{11}$, $N(R^{11})COR^{10}$, $N(R^{11})CO_2R^{10}$ or C_3-C_6 trialkylsilyl;

R^5 is H, C_1-C_4 alkyl, C_1-C_4 haloalkyl, or



;

V is N, CH, CF, CCl, CBr or CI;

each R^6 and R^7 is independently H, C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 haloalkyl, halogen, CN, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy or C_1-C_4 haloalkylthio;

R^9 is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl or C_3-C_6 haloalkynyl; provided R^7 and R^9 are not both H;

R^{10} is H or C_1–C_4 alkyl or C_1–C_4 haloalkyl;

R^{11} is H or C_1–C_4 alkyl; and

n is 1 or 2.

This invention also pertains to a composition for controlling an invertebrate pest comprising a biologically effective amount of a compound of Formula I and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents. This invention also pertains to a composition comprising a biologically effective amount of a compound of Formula I and an effective amount of at least one additional biologically active compound or agent.

This invention also pertains to a method for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound of Formula I (e.g., as a composition described herein). This invention also relates to such method wherein the invertebrate pest or its environment is contacted with a biologically effective amount of a compound of Formula I or a composition comprising a compound of Formula I and a biologically effective amount of at least one additional compound or agent for controlling invertebrate pests.

DETAILS OF THE INVENTION

In the above recitations, the term "alkyl", used either alone or in compound words such as "alkylthio" or "haloalkyl" includes straight-chain or branched alkyl, such as methyl, ethyl, *n*-propyl, *i*-propyl, or the different butyl, pentyl or hexyl isomers. "Alkenyl" can include straight-chain or branched alkenes such as 1-propenyl, 2-propenyl, and the different butenyl, pentenyl and hexenyl isomers. "Alkenyl" also includes polyenes such as 1,2-propadienyl and 2,4-hexadienyl. "Alkynyl" includes straight-chain or branched alkynes such as 1-propynyl, 2-propynyl and the different butynyl, pentynyl and hexynyl isomers. "Alkynyl" can also include moieties comprised of multiple triple bonds such as 2,5-hexadiynyl. "Alkoxy" includes, for example, methoxy, ethoxy, *n*-propyloxy, isopropyloxy and the different butoxy, pentoxy and hexyloxy isomers. "Alkoxyalkyl" denotes alkoxy substitution on alkyl. Examples of "alkoxyalkyl" include CH_3OCH_2, $CH_3OCH_2CH_2$, $CH_3CH_2OCH_2$, $CH_3CH_2CH_2CH_2OCH_2$ and $CH_3CH_2OCH_2CH_2$. "Alkylthio" includes branched or straight-chain alkylthio moieties such as methylthio, ethylthio, and the different propylthio, butylthio, pentylthio and hexylthio isomers. "Cycloalkyl" includes, for example, cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl. "Cycloalkylalkyl" indicates an alkyl group substituted with a cycloalky group and includes, for example, cyclopropylmethyl, cyclobutylethyl, cyclopentylpropyl and cyclohexylmethyl.

The term "heteroaromatic ring" denotes fully aromatic rings in which at least one ring atom is not carbon and can contain 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, oxygen and sulfur, provided that each heteroaromatic ring contains no more than 4 nitrogens, no more than 2 oxygens and no more than 2 sulfurs (where aromatic indicates that the Hückel rule is satisfied). The heteroaromatic ring can be attached through any available carbon or nitrogen by replacement of hydrogen on said carbon or nitrogen.

The term "halogen", either alone or in compound words such as "haloalkyl", includes fluorine, chlorine, bromine or iodine. Further, when used in compound words such as "haloalkyl", said alkyl may be partially or fully substituted with halogen atoms which may be the same or different. Examples of "haloalkyl" include F_3C, $ClCH_2$, CF_3CH_2 and CF_3CCl_2. The terms "haloalkenyl", "haloalkynyl", "haloalkoxy", and the like, are defined analogously to the term "haloalkyl". Examples of "haloalkenyl" include $(Cl)_2C{=}CHCH_2$ and $CF_3CH_2CH{=}CHCH_2$. Examples of "haloalkynyl" include $HC{\equiv}CCHCl$, $CF_3C{\equiv}C$, $CCl_3C{\equiv}C$ and $FCH_2C{\equiv}CCH_2$. Examples of "haloalkoxy" include CF_3O, CCl_3CH_2O, $HCF_2CH_2CH_2O$ and CF_3CH_2O.

The total number of carbon atoms in a substituent group is indicated by the "C_i-C_j" prefix where i and j are numbers from 1 to 6. For example, C_1-C_3 alkylsulfonyl designates methylsulfonyl through propylsulfonyl; C_2 alkoxyalkyl designates CH_3OCH_2; C_3 alkoxyalkyl designates, for example, $CH_3CH(OCH_3)$, $CH_3OCH_2CH_2$ or $CH_3CH_2OCH_2$; and C_4 alkoxyalkyl designates the various isomers of an alkyl group substituted with an

alkoxy group containing a total of four carbon atoms, examples including $CH_3CH_2CH_2OCH_2$ and $CH_3CH_2OCH_2CH_2$. In the above recitations, when a compound of Formula I contains a heteroaromatic ring, all substituents are attached to this ring through any available carbon or nitrogen by replacement of a hydrogen on said carbon or nitrogen.

When a group contains a substituent which can be hydrogen, for example R^3, then, when this substituent is taken as hydrogen, it is recognized that this is equivalent to said group being unsubstituted.

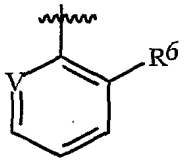
Compounds of this invention can exist as one or more stereoisomers. The various stereoisomers include enantiomers, diastereomers, atropisomers and geometric isomers. One skilled in the art will appreciate that one stereoisomer may be more active and/or may exhibit beneficial effects when enriched relative to the other stereoisomer(s) or when separated from the other stereoisomer(s). Additionally, the skilled artisan knows how to separate, enrich, and/or to selectively prepare said stereoisomers. Accordingly, the compounds of the invention may be present as a mixture of stereoisomers, individual stereoisomers, or as an optically active form.

The present invention comprises of compounds selected from Formula I, N-oxides and agriculturally suitable salts thereof. One skilled in the art will appreciate that not all nitrogen containing heterocycles can form *N*-oxides since the nitrogen requires an available lone pair for oxidation to the oxide; one skilled in the art will recognize those nitrogen containing heterocycles which can form *N*-oxides. One skilled in the art will also recognize that tertiary amines can form *N*-oxides. Synthetic methods for the preparation of *N*-oxides of heterocycles and tertiary amines are very well known by one skilled in the art including the oxidation of heterocycles and tertiary amines with peroxy acids such as peracetic and *m*-chloroperbenzoic acid (MCPBA), hydrogen peroxide, alkyl hydroperoxides such as *t*-butyl hydroperoxide, sodium perborate, and dioxiranes such as dimethydioxirane. These methods for the preparation of *N*-oxides have been extensively described and reviewed in the literature, see for example: T. L. Gilchrist in *Comprehensive Organic Synthesis*, vol. 7, pp 748-750, S. V. Ley, Ed., Pergamon Press; M. Tisler and B. Stanovnik in *Comprehensive Heterocyclic Chemistry*, vol. 3, pp 18-19, A. J. Boulton and A. McKillop, Eds., Pergamon Press; M. R. Grimmett and B. R. T. Keene in *Advances in Heterocyclic Chemistry*, vol. 43, pp 139-151, A. R. Katritzky, Ed., Academic Press; M. Tisler and B. Stanovnik in *Advances in Heterocyclic Chemistry*, vol. 9, pp 285-291, A. R. Katritzky and A. J. Boulton, Eds., Academic Press; and G. W. H. Cheeseman and E. S. G. Werstiuk in *Advances in Heterocyclic Chemistry*, vol. 22, pp 390-392, A. R. Katritzky and A. J. Boulton, Eds., Academic Press.

The salts of the compounds of the invention include acid-addition salts with inorganic or organic acids such as hydrobromic, hydrochloric, nitric, phosphoric, sulfuric,

acetic, butyric, fumaric, lactic, maleic, malonic, oxalic, propionic, salicylic, tartaric, 4-toluenesulfonic or valeric acids.

Of note are compounds of Formula I wherein R^5 is



The wavy line represents the remainder of the J group to which said R^5 moiety is attached.

Preferred compounds for reasons of better activity, cost and/or ease of synthesis are:

Preferred 1. Compounds of Formula I wherein V is N.

Preferred 2. Compounds of Formula I wherein V is CH, CF, CCl or CBr.

Preferred 3. Compounds of Preferred 1 or Preferred 2 wherein

R^1 and R^2 are both H;

R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH_3, $S(O)_pCH_3$;

one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, CF_3, OCF_3, $OCHF_2$, $S(O)_pCF_3$, $S(O)_pCHF_2$, CN or halogen;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is C_1-C_4 alkyl, C_1-C_4 haloalkyl, halogen or CN;

R^7 is H, CH_3, CF_3, $OCHF_2$ or halogen; and

p is 0, 1 or 2.

Preferred 4. Compounds of Preferred 3 wherein

J is J-1;

R^3 is C_1-C_4 alkyl;

one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is Cl or Br; and

R^7 is halogen or CF_3.

Preferred 5. Compounds of Preferred 4 wherein

V is N;

R^3 is methyl, ethyl, isopropyl or tertiary butyl;

one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3 or I;

R^6 is Cl or Br; and

R^7 is Br, Cl or CF_3.

Preferred 6. Compounds of Preferred 3 wherein

J is J-2;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^9 is CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

Preferred 7. Compounds of Preferred 3 wherein
J is J-3;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^7 is halogen or CF_3.

Preferred 8. Compounds of Preferred 3 wherein
J is J-4;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^7 is CF_3.

Preferred 9. Compounds of Preferred 3 wherein
J is J-5;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^9 is CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

Preferred 10. Compounds of Preferred 3 wherein
J is J-6;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and

R^7 is halogen or CF_3.

Preferred 11. Compounds of Preferred 3 wherein

J is J-7;

R^3 is C_1-C_4 alkyl;

one R^4 group is attached to the K-ring at the 2-position and said R^4 is CH_3, Cl or Br;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is Cl or Br;

R^7 is H, halogen or CF_3.and

R^9 is H, CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

Preferred 12. Compounds of Preferred 3 wherein

J is J-8;

R^3 is C_1-C_4 alkyl;

one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is Cl or Br;

R^7 is H, halogen or CF_3.and

R^9 is H, CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

Specifically preferred are compounds selected from the group consisting of:

*N*1-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-methyl-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide,

*N*1-[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1*H*-pyrazol-5-yl]-3-methyl-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide,

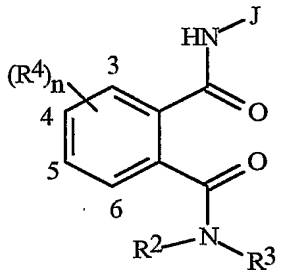
*N*1-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide, and

*N*1-[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1*H*-pyrazol-5-yl]-3-iodo-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide.

The preferred compositions of the present invention are those that comprise the above preferred compounds.

The preferred methods of use are those involving the above preferred compounds.

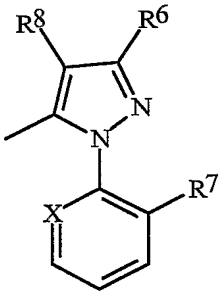
Of note are compounds of Formula 1d and *N*-oxides and agriculturally suitable salts thereof



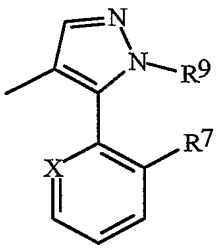
1d

wherein

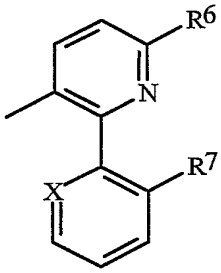
J is selected from the group consisting of



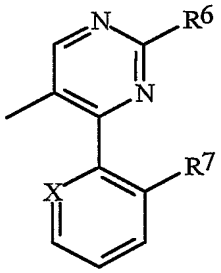
J-59



J-60



J-61



J-62

R^1 is H, C_1-C_6 alkyl, C_2-C_6 alkoxycarbonyl or C_2-C_6 alkylcarbonyl;

R^2 is H or C_1-C_6 alkyl;

R^3 is H; C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, or C_3-C_6 cycloalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO_2, hydroxy, C_1-C_4 alkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_2-C_6 alkoxycarbonyl, C_2-C_6 alkylcarbonyl, C_3-C_6 trialkylsilyl, or a phenyl, phenoxy or 5- or 6-membered heteroaromatic ring, each ring optionally substituted with one to three substituents independently selected from the group consisting of C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, C_3-C_6 cycloalkyl, C_1-C_4 haloalkyl, C_2-C_4 haloalkenyl, C_2-C_4 haloalkynyl, C_3-C_6 halocycloalkyl, halogen, CN, NO_2, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 alkylamino, C_2-C_8 dialkylamino, C_3-C_6 cycloalkylamino, C_4-C_8 (alkyl)cycloalkylamino, C_2-C_4 alkylcarbonyl, C_2-C_6 alkoxycarbonyl, C_2-C_6 alkylaminocarbonyl, C_3-C_8 dialkylaminocarbonyl or C_3-C_6 trialkylsilyl; C_1-C_4 alkoxy; C_1-C_4 alkylamino; C_2-C_8 dialkylamino; C_3-C_6 cycloalkylamino; C_2-C_6 alkoxycarbonyl or C_2-C_6 alkylcarbonyl;

each R^4 is independently H, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_1-C_6 haloalkyl, C_1–C_4 alkoxyalkyl, CN, halogen, C_1-C_4 alkoxy, C_1–C_4 haloalkoxy, $S(O)_nR^{12}$, C_1–C_4 hydroxyalkyl, $C(O)R^{10}$, CHO, CO_2R^{10}, $C(O)NR^{10}R^{11}$, NO_2, $NR^{10}R^{11}$ or $N(R^{11})CO_2R^{10}$;

each R^6 is independently C_1-C_6 alkyl, C_1-C_6 haloalkyl, halogen, CN, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy or C_1-C_4 haloalkylthio;

R^7 is C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, C_3-C_6 cycloalkyl, C_1-C_4 haloalkyl, C_2-C_4 haloalkenyl, C_2-C_4 haloalkynyl, C_3-C_6 halocycloalkyl, halogen, CN, NO_2, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 alkylamino, C_2-C_8 dialkylamino, C_3-C_6 cycloalkylamino, C_3-C_6 (alkyl)cycloalkylamino, C_2-C_4 alkylcarbonyl, C_2-C_6 alkoxycarbonyl, C_2-C_6 alkylaminocarbonyl, C_3-C_8 dialkylaminocarbonyl or C_3-C_6 trialkylsilyl;

R^8 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, halogen, C_1–C_4 alkoxy or C_1–C_4 haloalkoxy;

R^9 is C_2-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl or C_3-C_6 haloalkynyl;

R^{10} is H or C_1–C_4 alkyl or C_1–C_4 haloalkyl;

R^{11} is H or C_1–C_4 alkyl;

R^{12} is C_1–C_4 alkyl or C_1–C_4 haloalkyl;

n is 0, 1 or 2; and

X is N, CH, CF, CCl or CBr.

Of particular note are selected compounds of Formula1d:

Selection A. Compounds of Formula1d wherein X is N.

Selection B. Compounds of Formula1d wherein X is CH, CF, CCl or CBr.

Selection C. The compounds of Selection A or Selection B wherein

J is J-59;

R^1, R^2 and R^8 are all H;

R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH_3, $S(O)_pCH_3$;

one R^4 is CH_3, CF_3, OCF_3, $OCHF_2$, $S(O)_pCF_3$, $S(O)_pCHF_2$, CN or halogen;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is CH_3, CF_3 or halogen; and

p is 0, 1 or 2.

Selection D. Compounds of Selection C wherein

R^3 is C_1-C_4 alkyl;

one R^4 is CH_3, Cl or Br;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is CF_3; and

R^7 is Cl or Br.

Selection E. The compounds of Selection A or Selection B wherein
J is J-60;
R^1 and R^2 are both H;
R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH_3, $S(O)_pCH_3$;
one R^4 is CH_3, CF_3, OCF_3, $OCHF_2$, $S(O)_pCF_3$, $S(O)_pCHF_2$, CN or halogen;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^9 is C_2-C_6 alkyl or C_1-C_6 haloalkyl; and
p is 0,1or 2.

Selection F. Compounds of Selection E wherein
R^3 is C_1-C_4 alkyl;
one R^4 is CH_3, Cl or Br;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^9 is CF_3, CHF_2, CH_2CF_3, CF_2CHF_2; and
R^7 is Cl or Br.

Selection G. The compounds of Selection A or Selection B wherein
J is J-61;
R^1, R^2 and R^8 are all H;
R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH_3, $S(O)_pCH_3$;
one R^4 is CH_3, CF_3, OCF_3, $OCHF_2$, $S(O)_pCF_3$, $S(O)_pCHF_2$, CN or halogen;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is CH_3, CF_3 or halogen; and
p is 0, 1 or 2.

Selection H. Compounds of Selection G wherein
R^3 is C_1-C_4 alkyl;
one R^4 is CH_3, Cl or Br;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is CF_3; and
R^7 is Cl or Br.

Selection I. The compounds of Selection A or Selection B wherein
J is J-62;
R^1, R^2 and R^8 are all H;
R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH_3, $S(O)_pCH_3$;
one R^4 is CH_3, CF_3, OCF_3, $OCHF_2$, $S(O)_pCF_3$, $S(O)_pCHF_2$, CN or halogen;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is CH_3, CF_3 or halogen; and
p is 0, 1 or 2.

Selection J. Compounds of Selection I wherein
R^3 is C_1-C_4 alkyl;

one R^4 is CH_3, Cl or Br;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is CF_3; and
R^7 is Cl or Br.

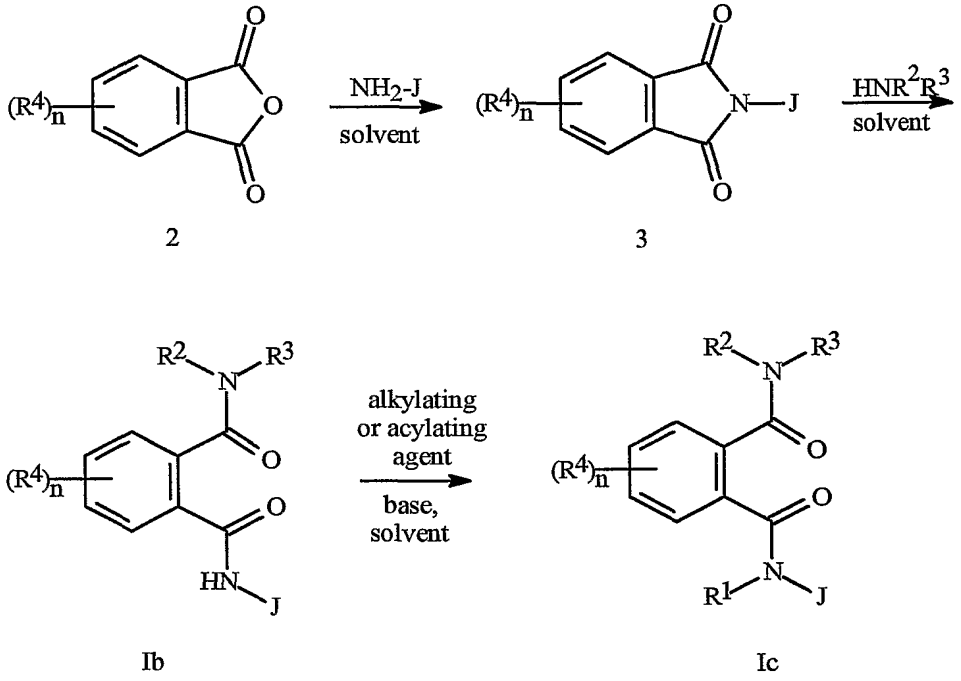
Also of note are compositions comprising a biologically effective amount of a compound of Formula 1d and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents. Also of note are said compositions further comprising at least one additional biologically active compound or agent. Selected compositions are those comprising the selected compounds above.

Also of note is a method for controlling lepidopteran, homopteran and coleopteran insects comprising contacting the insects or their environment with a biologically effective amount of a compound of Formula 1d, its *N*-oxide or an agriculturally suitable salt thereof. Selected methods are those comprising the selected compounds above.

The compounds of Formula I can be prepared by one or more of the following methods and variations described in Schemes 1 and 2. The definitions of J, R^1, R^2, R^3, R^4 and n in the compounds of Formulae 1-9 are as defined above in the Summary of the Invention.

Phthalic acid diamides of formula Ib and Ic can be made by the method described in Scheme 1. Heating a phthalic anhydride of formula 2 with an aminoheterocycle of Formula H_2N-J in an inert solvent such as glacial acetic acid affords a phthalimide of Formula 3. Ring-opening of phthalimide 3 with an amine of the Formula HNR^2R^3 in an inert solvent such as dioxane or tetrahydrofuran at room temperture or heating at reflux gives a phthalic acid diamide of formula 1b. Alkylation of a compound of formula Ib with a suitable alkylating agent (e.g. an alkyl halide or an alkyl methane- or 4-toluene-sulfonate) or acylating agent (e.g. an alkylchloroformate or acid chloride) in the presence of a base such as sodium hydride or *n*-butyl lithium in an inert solvent such as tetrahydrofuran or *N,N*-dimethylformamide affords a phthalic acid diamide of formula Ic wherein R^1 is a substituent other than hydrogen. Phthalic anhydrides of Formula 2 can be made by methods taught in *J. Org. Chem.*, **1987,** *52*, 129, *J. Am. Chem. Soc.*, **1929,** *51*, 1865, and *J. Am. Chem. Soc.*, **1941,** *63*, 1542. Aminoheterocycles of formula H_2N-J can be made by methods as described in *Rodd's Chemistry of Organic Compounds*: Heterocyclic Compounds, volume IV, parts C, F and IJ (1989), *Comprehensive Heterocyclic Chemistry*, volumes 2, 3,4,5 and 6 (1984) and *Comprehensive Heterocyclic Chemistry II*, volumes 3, 4, 5 and 6 (1996).

Scheme 1

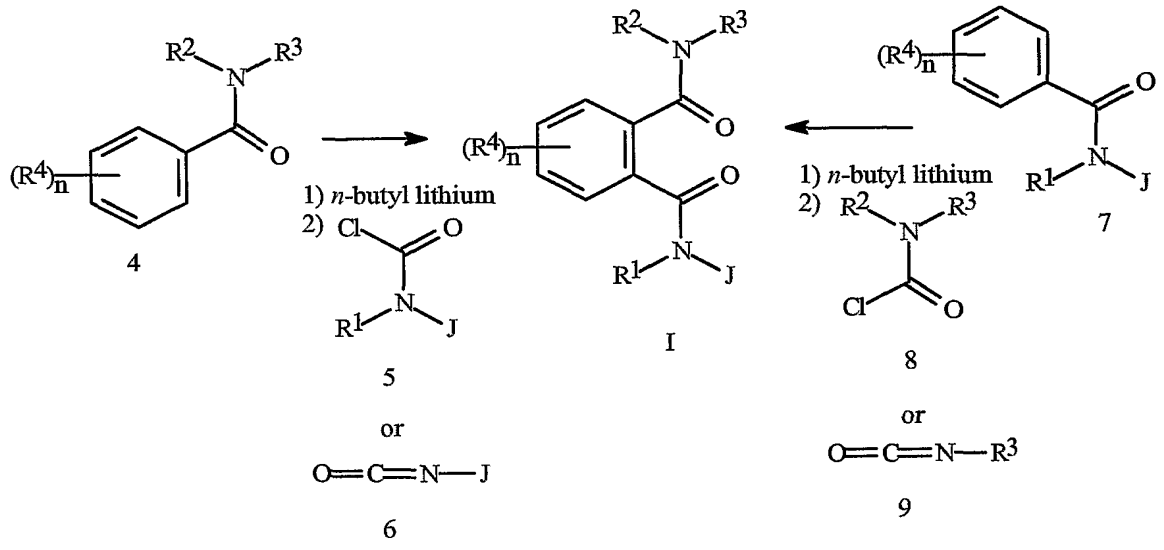


Another method for making compounds of Formula I is summarized in Scheme 2. Lithiation of a benzamide of Formula 4 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with a carbamoyl chloride of Formula 5 provides a phthalic acid diamide of Formula I wherein R^1 is other than hydrogen. Reaction of a benzamide of Formula 4 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with an isocyanate of Formula 6 provides a phthalic acid diamide of Formula I wherein R^1 is hydrogen. Alternatively, lithiation of a benzamide of Formula 7 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with a carbamoyl chloride chloride of Formula 8 provides a phthalic acid diamide of Formula I wherein R^2 is other than hydrogen. Reaction of a benzamide of Formula 7 with *n*-butyl lithium in an inert solvent such as tetrahydrofuran followed by reaction with an isocyanate of Formula 9 provides a phthalic acid diamide of Formula 1 wherein R^2 is hydrogen.

Benzamides of Formulae 4 and 7 are readily made from the corresponding benzoic acids via a benzoyl chloride intermediate or by direct coupling of a benzoic acid and amine in the presence of a suitable acid/amine coupling agent such as 1,3-dicyclohexylcarbodiimide or 1,1'-carbonyldiimidazole in an inert solvent such as dichloromethane or *N,N*-dimethylformamide. Benzoic acids are readily converted to the acid chlorides on treatment with thionyl chloride or oxalyl chloride in an inert solvent such as dichloromethane or toluene. The benzoyl chloride is subsequently coupled with an amine of formula $HNR^2\ R^3$ or $HN\ R^1J$ in an inert solvent such as tetrahydrofuran or

dichloromethane. An additional base such as tertiary amines, pyridine or polymer-bound bases may be used to neutralize the hydrochloric acid produced in the reaction.

Scheme 2



4 5 6 I 7 8 9

It is recognized that some reagents and reaction conditions described above for preparing compounds of Formula I may not be compatible with certain functionalities present in the intermediates. In these instances, the incorporation of protection and deprotection sequences or functional group interconversions into the synthesis will aid in obtaining the desired products. The use and choice of the protecting groups will be apparent to one skilled in chemical synthesis (see, for example, Greene, T. W.; Wuts, P. G. M. *Protective Groups in Organic Synthesis*, 2nd ed.; Wiley: New York, 1991). One skilled in the art will recognize that, in some cases, after the introduction of a given reagent as it is depicted in any individual scheme, it may be necessary to perform additional routine synthetic steps not described in detail to complete the synthesis of compounds of Formula I. One skilled in the art will also recognize that it may be necessary to perform a combination of the steps illustrated in the above schemes in an order other than that implied by the particular sequence presented to prepare the compounds of Formula I.

One skilled in the art will also recognize that compounds of Formula I and the intermediates described herein can be subjected to various electrophilic, nucleophilic, radical, organometallic, oxidation, and reduction reactions to add substituents or modify existing substituents.

Without further elaboration, it is believed that one skilled in the art using the preceding description can utilize the present invention to its fullest extent. The following Examples are, therefore, to be construed as merely illustrative and not limiting of the disclosure in any

way whatsoever. Percentages are by weight except for chromatographic solvent mixtures or where otherwise indicated. Parts and percentages for chromatographic solvent mixtures are by volume unless otherwise indicated. ^{1}H NMR spectra are reported in ppm downfield from tetramethylsilane; s is singlet, d is doublet, t is triplet, q is quartet, m is multiplet, dd is doublet of doublets, dt is doublet of triplets, br s is broad singlet.

EXAMPLE 1

Step A: Preparation of 5-Nitro-2-(2,2,2-trifluoroethoxy)pyridine

To a solution of 2,2,2-trifluoroethanol (5 g, 50 mmol) stirring in 50 mL of tetrahydrofuran, sodium hydride (2 g of ca. 60% oil dispersion, ca. 50 mmol) was added portionwise with foaming and an exotherm. After formation of a solution and stirring at room temperature, 2-chloro-5-nitropyridine (5 g, 32 mmol) was added portionwise, accompanied by an exotherm. After stirring at room temperature overnight, the reaction mixture was partitioned between 100 mL of ethyl acetate and 75 mL of water. The organic layer was separated, washed with brine and dried over magnesium sulfate. Evaporation of solvent *in vacuo* gave an orange oil. A solid was crystallized from hexanes, filtered and dried to give 5 g of 5-nitro-2-(2,2,2-trifluoroethoxy)pyridine (used directly in the next step).
^{1}H NMR ($CDCl_3$): 9.07 (s, 1H), 8.45 (d, 1H), 7.01 (d, 1H), 4.9 (q, 2H) ppm.

Step B: Preparation of 5-Amino-2-(2,2,2-trifluoroethoxy)pyridine

To a solution of 5 g of 5-nitro-2-(2,2,2-trifluoroethoxy)pyridine in 75 mL of ethyl acetate, 0.5 g of 10% palladium on carbon was added under nitrogen and the mixture was allowed to shake on a paar hydrogenator under hydrogen at 3.1 X 10^5 Pa for 4 hours at room temperature. The reaction mixture was filtered through celite and the celite washed thoroughly with ethyl acetate. Evaporation of solvent *in vacuo* gave a dark oil. A solid was triturated from hexane, filtered and dried to afford 3.3 g of 5-amino-2-(2,2,2-trifluoroethoxy)pyridine, isolated as a crude dark solid.
^{1}H NMR ($CDCl_3$): 7.60 (s, 1H), 7.05 (d, 1H), 6.70 (d, 1H), 4.65 (q, 2H) 3.44 (br s, NH_2) ppm.

Step C: Preparation of 3-iodo-*N*-(2,2,2-trifluoroethoxy)pyridin-5-yl phthalimide

A stirred solution of 3-iodophthalic anhydride (1.3g, 4.7 mmol) and 5-amino-2-(2,2,2-trifluoroethoxy)pyridine (1.1g, 5.7 mmol) stirring in 15 mL of glacial acetic acid was heated at reflux for 3 hrs. The solvent was removed *in vacuo* and the remaining residue partitioned between 100 mL of ethyl acetate and 75 mL of water. The organic layer was separated, washed with aqueous sodium bicarbonate and brine and dried over magnesium sulfate. Evaporation of solvent *in vacuo* gave a solid residue which was suspended in hexanes and filtered to afford 2 g of 3-iodo-*N*-(2,2,2-trifluoroethoxy)pyridin-5-yl phthalimide, isolated as a crude solid and used directly in the next step.
^{1}H NMR ($CDCl_3$): 8.3 (s, 1H), 8.2 (d, 1H), 7.95 (d, 1H), 7.75 (d, 1H) 7.5 (t, 1H), 7.01 (d, 1H), 4.8 (q, 2H) ppm.

Step D: Preparation of 3-Iodo-N^2-(1-methylethyl)-N^1-[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide and 6-Iodo-N^2-(1-methylethyl)-N^1-[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide

To a stirred solution of 3-iodo-*N*-(2,2,2-trifluoroethoxy)pyridin-5-yl phthalimide (0.5 g, 1.1 mmol) in 10 mL of 1,4-dioxane, isopropylamine (1.5 g, 25 mmol) was added and the reaction solution heated near reflux overnight. The reaction mixture was partitioned between 100 mL of ethyl acetate and 75 mL of water. The organic layer was separated, washed with water and brine, and dried over magnesium sulfate. Evaporation of solvent *in vacuo* gave a solid residue which was chromatograghed on silica gel to afford 27 mg of 3-iodo-N^2-(1-methylethyl)-N^1-[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide [mp: 220-225 °C; ^{1}H NMR (DMSO-D_6): δ 10.25 (s, 1H), 8.46 (s, 1H), 8.2 (d, 1H), 8.05 (d, 1H), 8.0 (d, 1H), 7.65 (d, 1H), 7.25 (t, 1H), 7.0 (d, 1H), 4.96 (q, 2H), 3.95 (m, 1H), 1.07 (d, 6H)] and 25 mg of 6-iodo-N^2-(1-methylethyl)-N^1-[6-(2,2,2-trifluoroethoxy)-3-pyridinyl]-1,2-benzenedicarboxamide [mp: 200-203 °C; ^{1}H NMR (DMSO-D_6): δ 8.8 (s, 1H), 8.4 (s, 1H), 8.05 (d, 1H), 7.85 (d, 1H), 7.35 (d, 1H), 7.05 (t, 1H), 6.85 (d, 1H), 6.35 (d, 1H), 4.75 (q, 2H), 4.1 (m, 1H), 1.1 (d, 6H)].

EXAMPLE 2

Step A: Preparation of 1-(2-Chlorophenyl)-5-(2-furanyl)-3-(trifluoromethyl)-1*H*-pyrazole

To a solution containing 4,4,4-trifluoro-1-(2-furyl)-1,3- butanedione (30.0 g, 146 mmol) in glacial acetic acid (65 mL) was added sodium acetate (12.1 g, 148 mmol). The mixture was cooled to about 25 °C, 2-chlorophenylhydrazine hydrochloride (25.6 g, 145 mmol) was added portionwise and, following a mild exotherm, the mixture was heated to 60 °C for 4 h, then cooled to 25 °C. The mixture was diluted with dichloromethane (400 mL) and the organic phase was washed with water (3x250 mL), saturated aqueous sodium carbonate (2x250 mL) and brine, then dried over magnesium sulfate and evaporated under reduced pressure to yield 43.2 g of the title compound as a brown oil. ^{1}H NMR ($CDCl_3$): δ 7.6 (m,5H), 6.9 (1H), 5.7 (d, 1H).

Step B: Preparation of 1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazole-5-carboxylic acid

To a suspension containing the title compound of Step A (43.2 g, 138 mmol) in acetonitrile (415 mL) was added sodium dihydrogenphosphate monohydrate (92.4 g, 669 mmol) over about 0.25 h. After stirring at room temperature for 0.5 h, the mixture was cooled to about 5 °C and a solution containing sodium chlorite (181.7 g, 2.0 mmol) in 430 mL of water was added dropwise over 1 h while keeping the reaction temperature at less than 10 °C. [Note: an aqueous sodium hydroxide scrubber was attached to scrub an evolving yellow off-gas.] Following completion of addition the suspension was stirred at 5 °C for about 1 h, at 25 °C overnight, then acidified to pH = 1 by dropwise addition of

concentrated hydrochloric acid (150 mL), then extracted with ethyl acetate (1x500 mL, then 2x250 mL). The combined ethyl acetate extracts were added dropwise to an aqueous sodium metasufite solution (228.5 g in 1.05 L water) at a reaction temperature of less than 20 °C. The suspension was partitioned and the aqueous layer extracted with ethyl acetate (2x100 mL). The organic layers were combined, dried over magnesium sulfate and evaporated under reduced pressure. The residue was triturated with hexane:diethyl ethert (99:1, 100 mL) to yield 32.9 g of the title compound as a solid.

^{1}H NMR (DMSO-D_6): δ 13.9 (bs,1H), 7.7(m,5H).

Step C: Preparation of 1-(2-chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-amine

To a solution of the title compound of Step B (1.0 g, 3.44 mmol, 1.0 equivalent) in chloroform (20 mL), in a 50 mL round bottom flask was added thionyl chloride (1.26 mL, 17.2 mmol, 5.0 equivalents) and anhydrous *N,N*-dimethylformamide (2 drops). The resulting mixture was refluxed for 18 hours under a nitrogen atmosphere. After 18 hours the reaction was shown to be complete from an aliquot (0.5 mL) that was added to methanol (2 mL) and potassium carbonate and shaken for 5 minutes. No carboxylic acid was detected from the aliquot and only the methyl ester derivative was present (thin-layer chromatography (TLC) analysis R_f = 0.75, 1:1 ethyl acetate:hexanes). The mixture was then concentrated under reduced pressure and dried *in vacuo* for 4 hours. The resulting pale yellow oil was diluted with chloroform (30 mL) and transferred to a 100 mL round bottom flask. To the flask was added tetrabutylammonium bromide (3.0 mg, 0.01 mmol, 0.003 equivalents) at 0 °C followed by a solution of sodium azide (0.9 g, 13.8 mmol, 4.0 equiv) in water (5 mL). The mixture was stirred vigorously for 2 hours, after which the organic layer was separated and washed with water (2 x 20 mL), brine (20 mL), dried (Na_2SO_4), and filtered into a 100 mL round bottom flask. To the flask was added trifluoroacetic acid (0.69 mL, 8.94 mmol, 2.6 equivalents) and the mixture was stirred at reflux for 42 hours. To monitor the reaction, an aliquot (0.5 mL) was added to chloroform (1 mL) and washed with saturated sodium bicarbonate (2 mL). By TLC analysis after 6 h, both the acyl azide (R_f = 0.90, 2:1 ethyl acetate:hexanes) and product (R_f = 0.45, 2:1 ethyl acetate:hexanes) were present. The mixture was then allowed to cool, washed with saturated sodium bicarbonate (2 x 15 mL), dried (Na_2SO_4), and concentrated under reduced pressure. Column chromatography (2:1 ethyl acetate:hexanes) provided 0.68 g of the title compound as a pale yellow solid in an overall yield of 76 %. The ^{1}H NMR spectrum was consistant with the structure.

^{1}H NMR ($CDCl_3$): δ 7.52-7.35 (4H, m), 6.96 (1H, br), 6.60 (1H, s).

Step D: Preparation of 2-[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-4-iodo-1*H*-isoindole-1,3(2*H*)-dione

To a solution of the title compound of Step C (1.7 g, 6.51 mmol, 1.0 equivalent) in glacial acetic acid (9 mL) in a 75 mL sealed tube reaction vessel was added 3-iodophthalic anhydride (1.78 g, 6.51 mmol, 1.0 equivalent). The reaction vessel was sealed and heated at

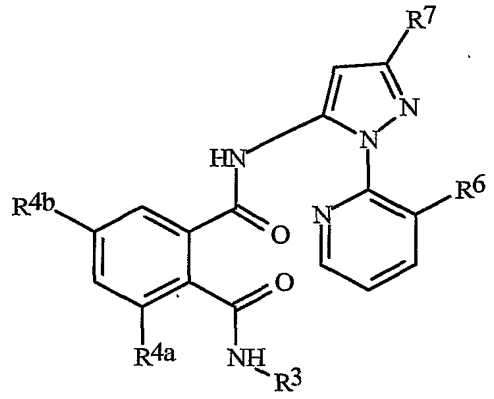
130 °C for 6h, then allowed to cool to room temperature. The mixture was transferred to a 250 mL separatory funnel and water was added (50 mL), upon which a white precipitate formed. The product was extracted with ether (2 x 50 mL), and the combined extracts were washed with water (3 x 50 mL), brine (50 mL), dried (Na_2SO_4), and concentrated under reduced pressure to yield 2.46 g of the title compound as a white solid. This material was used in the next step without purification.

Step E: Preparation of N^2-[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo-N^1-(1-methylethyl)-1,2-benzenedicarboxamide and N^1-[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo-N^2-(1-methylethyl)-1,2-benzenedicarboxamide

To the neat crude material from Step D (110 mg) in a 1.2 mL glass vial was added isopropyl amine (0.5 mL). After 2 minutes the reaction was complete by TLC. The isopropyl amine was removed to give a crude oil which was purified by preparative TLC (1:2 ethyl acetate:hexanes) to afford 24 mg of N^2-[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo-N^1-(1-methylethyl)-1,2-benzenedicarboxamide (yield 18%) (mp 234-235 °C); TLC analysis R_f = 0.32, (1:1 ethyl acetate:hexanes); ^{1}H NMR ($CDCl_3$): δ 7.88 (1H, d), 7.66 (1H, br), 7.57-7.52 (2H, m), 7.50-7.43 (3H, m), 7.16-7.11 (2H, m), 5.98 (1H, bd), 4.10 (1H, m), 1.17 (6H, d); and 37 mg of N^1-[1-(2-Chlorophenyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo-N^2-(1-methylethyl)-1,2-benzenedicarboxamide (yield 29%); (mp 226-228 °C); TLC analysis R_f = 0.58, (1:1 ethyl acetate:hexanes) ^{1}H NMR ($CDCl_3$): δ 8.94 (1H, s), 7.93 (1H, d), 7.78 (1H, d), 7.63-7.47 (4H, m), 7.17 (1H, t), 7.12 (1H, s), 6.63 (1H, bd), 4.07 (1H, m), 1.18 (6H, d).

By the procedures described herein together with methods known in the art, the following compounds of Tables 1 to 25 can be prepared. The following abbreviations are used in the Tables: *t* is tertiary, *s* is secondary, *n* is normal, *i* is iso, *c* is cyclo, Me is methyl, Et is ethyl, Pr is propyl, *i*-Pr is isopropyl, *t*-Bu is tertiary butyl, Ph is phenyl and CN is cyano.

Table 1



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CH_3	F	CF_3	Me	Cl	Cl	F	CF_3	Me	Cl	Br	F	CF_3	Me	Cl
CH_3	F	CF_3	Et	Cl	Cl	F	CF_3	Et	Cl	Br	F	CF_3	Et	Cl
CH_3	F	CF_3	*i*-Pr	Cl	Cl	F	CF_3	*i*-Pr	Cl	Br	F	CF_3	*i*-Pr	Cl
CH_3	F	CF_3	*t*-Bu	Cl	Cl	F	CF_3	*t*-Bu	Cl	Br	F	CF_3	*t*-Bu	Cl
CH_3	F	CF_3	Me	Br	Cl	F	CF_3	Me	Br	Br	F	CF_3	Me	Br
CH_3	F	CF_3	Et	Br	Cl	F	CF_3	Et	Br	Br	F	CF_3	Et	Br
CH_3	F	CF_3	*i*-Pr	Br	Cl	F	CF_3	*i*-Pr	Br	Br	F	CF_3	*i*-Pr	Br
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CH_3	F	Cl	Me	Cl	Cl	F	Cl	Me	Cl	Br	F	Cl	Me	Cl
CH_3	F	Cl	Et	Cl	Cl	F	Cl	Et	Cl	Br	F	Cl	Et	Cl
CH_3	F	Cl	*i*-Pr	Cl	Cl	F	Cl	*i*-Pr	Cl	Br	F	Cl	*i*-Pr	Cl
CH_3	F	Cl	*t*-Bu	Cl	Cl	F	Cl	*t*-Bu	Cl	Br	F	Cl	*t*-Bu	Cl
CH_3	F	Cl	Me	Br	Cl	F	Cl	Me	Br	Br	F	Cl	Me	Br
CH_3	F	Cl	Et	Br	Cl	F	Cl	Et	Br	Br	F	Cl	Et	Br
CH_3	F	Cl	*i*-Pr	Br	Cl	F	Cl	*i*-Pr	Br	Br	F	Cl	*i*-Pr	Br
CH_3	F	Cl	*t*-Bu	Br	Cl	F	Cl	*t*-Bu	Br	Br	F	Cl	*t*-Bu	Br
CH_3	F	Br	Me	Cl	Cl	F	Br	Me	Cl	Br	F	Br	Me	Cl
CH_3	F	Br	Et	Cl	Cl	F	Br	Et	Cl	Br	F	Br	Et	Cl
CH_3	F	Br	*i*-Pr	Cl	Cl	F	Br	*i*-Pr	Cl	Br	F	Br	*i*-Pr	Cl
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CH_3	F	Br	Me	Br	Cl	F	Br	Me	Br	Br	F	Br	Me	Br
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CH_3	F	Br	*i*-Pr	Br	Cl	F	Br	*i*-Pr	Br	Br	F	Br	*i*-Pr	Br
CH_3	F	Br	*t*-Bu	Br	Cl	F	Br	*t*-Bu	Br	Br	F	Br	*t*-Bu	Br
CH_3	Cl	CF_3	Me	Cl	Cl	Cl	CF_3	Me	Cl	Br	Cl	CF_3	Me	Cl

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	Cl	CF_3	Et	Cl	Cl	Cl	CF_3	Et	Cl	Br	Cl	CF_3	Et	Cl
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CH_3	Cl	CF_3	*i*-Pr	Br	Cl	Cl	CF_3	*i*-Pr	Br	Br	Cl	CF_3	*i*-Pr	Br
CH_3	Cl	CF_3	*t*-Bu	Br	Cl	Cl	CF_3	*t*-Bu	Br	Br	Cl	CF_3	*t*-Bu	Br
CH_3	Cl	Cl	Me	Cl	Cl	Cl	Cl	Me	Cl	Br	Cl	Cl	Me	Cl
CH_3	Cl	Cl	Et	Cl	Cl	Cl	Cl	Et	Cl	Br	Cl	Cl	Et	Cl
CH_3	Cl	Cl	*i*-Pr	Cl	Cl	Cl	Cl	*i*-Pr	Cl	Br	Cl	Cl	*i*-Pr	Cl
CH_3	Cl	Cl	*t*-Bu	Cl	Cl	Cl	Cl	*t*-Bu	Cl	Br	Cl	Cl	*t*-Bu	Cl
CH_3	Cl	Cl	Me	Br	Cl	Cl	Cl	Me	Br	Br	Cl	Cl	Me	Br
CH_3	Cl	Cl	Et	Br	Cl	Cl	Cl	Et	Br	Br	Cl	Cl	Et	Br
CH_3	Cl	Cl	*i*-Pr	Br	Cl	Cl	Cl	*i*-Pr	Br	Br	Cl	Cl	*i*-Pr	Br
CH_3	Cl	Cl	*t*-Bu	Br	Cl	Cl	Cl	*t*-Bu	Br	Br	Cl	Cl	*t*-Bu	Br
CH_3	Cl	Br	Me	Cl	Cl	Cl	Br	Me	Cl	Br	Cl	Br	Me	Cl
CH_3	Cl	Br	Et	Cl	Cl	Cl	Br	Et	Cl	Br	Cl	Br	Et	Cl
CH_3	Cl	Br	*i*-Pr	Cl	Cl	Cl	Br	*i*-Pr	Cl	Br	Cl	Br	*i*-Pr	Cl
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CH_3	Cl	Br	Me	Br	Cl	Cl	Br	Me	Br	Br	Cl	Br	Me	Br
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CH_3	Cl	Br	*i*-Pr	Br	Cl	Cl	Br	*i*-Pr	Br	Br	Cl	Br	*i*-Pr	Br
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CH_3	Br	CF_3	Me	Cl	Cl	Br	CF_3	Me	Cl	Br	Br	CF_3	Me	Cl
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CH_3	Br	Cl	Me	Br	Cl	H	CF_3	Me	Cl	Br	Br	Cl	Me	Br
CH_3	Br	Cl	Et	Br	Cl	H	CF_3	Et	Cl	Br	Br	Cl	Et	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	Br	Cl	*i*-Pr	Br	Cl	H	CF_3	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Br
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CH_3	Br	Br	*i*-Pr	Cl	Cl	H	CF_3	*i*-Pr	Br	Br	Br	Br	*i*-Pr	Cl
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CH_3	CF_3	CF_3	*i*-Pr	Cl	Cl	I	CF_3	*i*-Pr	Cl	Br	CF_3	CF_3	*i*-Pr	Cl

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
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CH_3	H	CF_3	*i*-Pr	Cl	Cl	CF_3	CF_3	*i*-Pr	Br	I	Cl	CF_3	*i*-Pr	Br
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CH_3	H	Cl	Me	Cl	Cl	CF_3	Cl	Me	Br	I	Cl	Cl	Me	Br
CH_3	H	Cl	Et	Cl	Cl	CF_3	Cl	Et	Br	I	Cl	Cl	Et	Br
CH_3	H	Cl	*i*-Pr	Cl	Cl	CF_3	Cl	*i*-Pr	Br	I	Cl	Cl	*i*-Pr	Br
CH_3	H	Cl	*t*-Bu	Cl	Cl	CF_3	Cl	*t*-Bu	Br	I	Cl	Cl	*t*-Bu	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	H	Cl	Me	Br	Cl	CF_3	Br	Me	Cl	I	Cl	Br	Me	Cl
CH_3	H	Cl	Et	Br	Cl	CF_3	Br	Et	Cl	I	Cl	Br	Et	Cl
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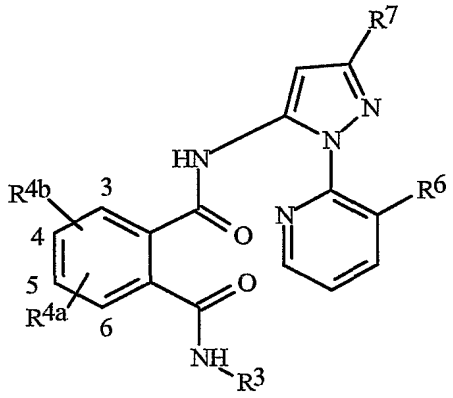
CH_3	H	Br	Me	Br	Cl	Cl	Cl	*n*-Pr	Cl	I	H	CF_3	Me	Cl
CH_3	H	Br	Et	Br	Cl	Cl	Cl	*n*-Bu	Cl	I	H	CF_3	Et	Cl
CH_3	H	Br	*i*-Pr	Br	Cl	Cl	Cl	*s*-Bu	Cl	I	H	CF_3	*i*-Pr	Cl
CH_3	H	Br	*t*-Bu	Br	Cl	Cl	Cl	*i*-Bu	Cl	I	H	CF_3	*t*-Bu	Cl

Table 2



R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	3-Me	H	CF_3	F	Me	3-Cl	H	CF_3	F
Et	3-Me	5-Me	OCF_3	F	Et	3-Cl	5-Me	OCF_3	F
i-Pr	3-Me	H	OCF_3	F	*i*-Pr	3-Cl	H	OCF_3	F
t-Bu	3-Me	5-Cl	Br	F	*t*-Bu	3-Cl	5-Cl	Br	F
Me	3-Me	H	Br	F	Me	3-Cl	H	Br	F
Et	3-Me	H	Cl	F	Et	3-Cl	H	Cl	F
i-Pr	3-Me	5-Br	Cl	F	*i*-Pr	3-Cl	5-Br	Cl	F
t-Bu	3-Me	H	I	F	*t*-Bu	3-Cl	H	I	F
propargyl	3-Me	H	CF_3	F	propargyl	3-Cl	H	CF_3	F
c-propyl	3-Me	H	OCF_3	F	*c*-propyl	3-Cl	H	OCF_3	F
i-Pr	3-Me	5-Cl	CF_3	F	*i*-Pr	3-Cl	5-Cl	CF_3	F
t-Bu	3-Me	H	SCF_3	F	t-Bu	3-Cl	H	SCF_3	F
Me	3-Me	5-Cl	$SCHF_2$	F	Me	3-Cl	5-Cl	$SCHF_2$	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	3-Me	H	$OCHF_2$	F	Et	3-Cl	H	$OCHF_2$	F
i-Pr	3-Me	H	CF_3	F	*i*-Pr	3-Cl	H	CF_3	F
t-Bu	3-Me	H	C_2F_5	F	*t*-Bu	3-Cl	H	C_2F_5	F
propargyl	3-Me	H	C_2F_5	F	propargyl	3-Cl	H	C_2F_5	F
c-propyl	3-Me	H	CF_3	F	*c*-propyl	3-Cl	H	CF_3	F
i-Pr	3-Me	H	Me	F	*i*-Pr	3-Cl	H	Me	F
t-Bu	3-Me	5-Br	CN	F	*t*-Bu	3-Cl	5-Br	CN	F
Me	3-Me	H	CF_3	Cl	Me	3-Cl	H	CF_3	Cl
Et	3-Me	5-Me	OCF_3	Cl	Et	3-Cl	5-Me	OCF_3	Cl
i-Pr	3-Me	H	OCF_3	Cl	*i*-Pr	3-Cl	H	OCF_3	Cl
t-Bu	3-Me	5-Cl	Br	Cl	*t*-Bu	3-Cl	5-Cl	Br	Cl
Me	3-Me	H	Br	Cl	Me	3-Cl	H	Br	Cl
Et	3-Me	H	Cl	Cl	Et	3-Cl	H	Cl	Cl
i-Pr	3-Me	5-Br	Cl	Cl	*i*-Pr	3-Cl	5-Br	Cl	Cl
t-Bu	3-Me	H	I	Cl	*t*-Bu	3-Cl	H	I	Cl
propargyl	3-Me	H	CF_3	Cl	propargyl	3-Cl	H	CF_3	Cl
c-propyl	3-Me	H	OCF_3	Cl	*c*-propyl	3-Cl	H	OCF_3	Cl
i-Pr	3-Me	5-Cl	CF_3	Cl	*i*-Pr	3-Cl	5-Cl	CF_3	Cl
t-Bu	3-Me	H	SCF_3	Cl	t-Bu	3-Cl	H	SCF_3	Cl
Me	3-Me	5-Cl	$SCHF_2$	Cl	Me	3-Cl	5-Cl	$SCHF_2$	Cl
Et	3-Me	H	$OCHF_2$	Cl	Et	3-Cl	H	$OCHF_2$	Cl
i-Pr	3-Me	H	CF_3	Cl	*i*-Pr	3-Cl	H	CF_3	Cl
t-Bu	3-Me	H	C_2F_5	Cl	*t*-Bu	3-Cl	H	C_2F_5	Cl
propargyl	3-Me	H	C_2F_5	Cl	propargyl	3-Cl	H	C_2F_5	Cl
c-propyl	3-Me	H	CF_3	Cl	*c*-propyl	3-Cl	H	CF_3	Cl
i-Pr	3-Me	H	Me	Cl	*i*-Pr	3-Cl	H	Me	Cl
t-Bu	3-Me	5-Br	CN	Cl	*t*-Bu	3-Cl	5-Br	CN	Cl
Me	3-Me	H	CF_3	CF_3	Me	3-Cl	H	CF_3	CF_3
Et	3-Me	5-Me	OCF_3	CF_3	Et	3-Cl	5-Me	OCF_3	CF_3
i-Pr	3-Me	H	OCF_3	CF_3	*i*-Pr	3-Cl	H	OCF_3	CF_3
t-Bu	3-Me	5-Cl	Br	CF_3	*t*-Bu	3-Cl	5-Cl	Br	CF_3
Me	3-Me	H	Br	CF_3	Me	3-Cl	H	Br	CF_3
Et	3-Me	H	Cl	CF_3	Et	3-Cl	H	Cl	CF_3
i-Pr	3-Me	5-Br	Cl	CF_3	*i*-Pr	3-Cl	5-Br	Cl	CF_3
t-Bu	3-Me	H	I	CF_3	*t*-Bu	3-Cl	H	I	CF_3
propargyl	3-Me	H	CF_3	CF_3	propargyl	3-Cl	H	CF_3	CF_3
c-propyl	3-Me	H	OCF_3	CF_3	*c*-propyl	3-Cl	H	OCF_3	CF_3

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	3-Me	5-Cl	CF_3	CF_3	*i*-Pr	3-Cl	5-Cl	CF_3	CF_3
t-Bu	3-Me	H	SCF_3	CF_3	t-Bu	3-Cl	H	SCF_3	CF_3
Me	3-Me	5-Cl	$SCHF_2$	CF_3	Me	3-Cl	5-Cl	$SCHF_2$	CF_3
Et	3-Me	H	$OCHF_2$	CF_3	Et	3-Cl	H	$OCHF_2$	CF_3
i-Pr	3-Me	H	CF_3	CF_3	*i*-Pr	3-Cl	H	CF_3	CF_3
t-Bu	3-Me	H	C_2F_5	CF_3	*t*-Bu	3-Cl	H	C_2F_5	CF_3
propargyl	3-Me	H	C_2F_5	CF_3	propargyl	3-Cl	H	C_2F_5	CF_3
c-propyl	3-Me	H	CF_3	CF_3	*c*-propyl	3-Cl	H	CF_3	CF_3
i-Pr	3-Me	H	Me	CF_3	*i*-Pr	3-Cl	H	Me	CF_3
t-Bu	3-Me	5-Br	CN	CF_3	*t*-Bu	3-Cl	5-Br	CN	CF_3
Me	3-Me	H	CF_3	Br	Me	3-Cl	H	CF_3	Br
Et	3-Me	5-Me	OCF_3	Br	Et	3-Cl	5-Me	OCF_3	Br
i-Pr	3-Me	H	OCF_3	Br	*i*-Pr	3-Cl	H	OCF_3	Br
t-Bu	3-Me	5-Cl	Br	Br	*t*-Bu	3-Cl	5-Cl	Br	Br
Me	3-Me	H	Br	Br	Me	3-Cl	H	Br	Br
Et	3-Me	H	Cl	Br	Et	3-Cl	H	Cl	Br
i-Pr	3-Me	5-Br	Cl	Br	*i*-Pr	3-Cl	5-Br	Cl	Br
t-Bu	3-Me	H	I	Br	*t*-Bu	3-Cl	H	I	Br
propargyl	3-Me	H	CF_3	Br	propargyl	3-Cl	H	CF_3	Br
c-propyl	3-Me	H	OCF_3	Br	*c*-propyl	3-Cl	H	OCF_3	Br
i-Pr	3-Me	5-Cl	CF_3	Br	*i*-Pr	3-Cl	5-Cl	CF_3	Br
t-Bu	3-Me	H	SCF_3	Br	t-Bu	3-Cl	H	SCF_3	Br
Me	3-Me	5-Cl	$SCHF_2$	Br	Me	3-Cl	5-Cl	$SCHF_2$	Br
Et	3-Me	H	$OCHF_2$	Br	Et	3-Cl	H	$OCHF_2$	Br
i-Pr	3-Me	H	CF_3	Br	*i*-Pr	3-Cl	H	CF_3	Br
t-Bu	3-Me	H	C_2F_5	Br	*t*-Bu	3-Cl	H	C_2F_5	Br
propargyl	3-Me	H	C_2F_5	Br	propargyl	3-Cl	H	C_2F_5	Br
c-propyl	3-Me	H	CF_3	Br	*c*-propyl	3-Cl	H	CF_3	Br
i-Pr	3-Me	H	Me	Br	*i*-Pr	3-Cl	H	Me	Br
t-Bu	3-Me	5-Br	CN	Br	*t*-Bu	3-Cl	5-Br	CN	Br
Me	6-Me	H	$OCHF_2$	F	Me	6-Cl	H	$OCHF_2$	F
Et	6-Me	H	$OCHF_2$	F	Et	6-Cl	H	$OCHF_2$	F
i-Pr	6-Me	H	$OCHF_2$	F	*i*-Pr	6-Cl	H	$OCHF_2$	F
t-Bu	6-Me	H	$OCHF_2$	F	*t*-Bu	6-Cl	H	$OCHF_2$	F
Me	6-Me	H	$SCHF_2$	F	Me	6-Cl	H	$SCHF_2$	F
Et	6-Me	H	$SCHF_2$	F	Et	6-Cl	H	$SCHF_2$	F
i-Pr	6-Me	H	$SCHF_2$	F	*i*-Pr	6-Cl	H	$SCHF_2$	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	6-Me	H	$SCHF_2$	F	*t*-Bu	6-Cl	H	$SCHF_2$	F
Me	6-Me	H	OCF_3	F	Me	6-Cl	H	OCF_3	F
Et	6-Me	H	OCF_3	F	Et	6-Cl	H	OCF_3	F
i-Pr	6-Me	H	OCF_3	F	*i*-Pr	6-Cl	H	OCF_3	F
t-Bu	6-Me	H	OCF_3	F	*t*-Bu	6-Cl	H	OCF_3	F
Me	6-Me	H	SCF_3	F	Me	6-Cl	H	SCF_3	F
Et	6-Me	H	SCF_3	F	Et	6-Cl	H	SCF_3	F
i-Pr	6-Me	H	SCF_3	F	*i*-Pr	6-Cl	H	SCF_3	F
t-Bu	6-Me	H	SCF_3	F	*t*-Bu	6-Cl	H	SCF_3	F
Me	6-Me	H	C_2F_5	F	Me	6-Cl	H	C_2F_5	F
Et	6-Me	H	C_2F_5	F	Et	6-Cl	H	C_2F_5	F
i-Pr	6-Me	H	C_2F_5	F	*i*-Pr	6-Cl	H	C_2F_5	F
t-Bu	6-Me	H	C_2F_5	F	*t*-Bu	6-Cl	H	C_2F_5	F
Me	6-Me	H	*n*-C_3F_7	F	Me	6-Cl	H	*n*-C_3F_7	F
Et	6-Me	H	*n*-C_3F_7	F	Et	6-Cl	H	*n*-C_3F_7	F
i-Pr	6-Me	H	*n*-C_3F_7	F	*i*-Pr	6-Cl	H	*n*-C_3F_7	F
t-Bu	6-Me	H	*n*-C_3F_7	F	*t*-Bu	6-Cl	H	*n*-C_3F_7	F
Me	6-Me	H	*i*-C_3F_7	F	Me	6-Cl	H	*i*-C_3F_7	F
Et	6-Me	H	*i*-C_3F_7	F	Et	6-Cl	H	*i*-C_3F_7	F
i-Pr	6-Me	H	*i*-C_3F_7	F	*i*-Pr	6-Cl	H	*i*-C_3F_7	F
t-Bu	6-Me	H	*i*-C_3F_7	F	*t*-Bu	6-Cl	H	*i*-C_3F_7	F
Me	6-Me	H	CN	F	Me	6-Cl	H	CN	F
Et	6-Me	H	CN	F	Et	6-Cl	H	CN	F
i-Pr	6-Me	H	CN	F	*i*-Pr	6-Cl	H	CN	F
t-Bu	6-Me	H	CN	F	*t*-Bu	6-Cl	H	CN	F
Me	6-Me	H	$OCHF_2$	Cl	Me	6-Cl	H	$OCHF_2$	Cl
Et	6-Me	H	$OCHF_2$	Cl	Et	6-Cl	H	$OCHF_2$	Cl
i-Pr	6-Me	H	$OCHF_2$	Cl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl
t-Bu	6-Me	H	$OCHF_2$	Cl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl
Me	6-Me	H	$SCHF_2$	Cl	Me	6-Cl	H	$SCHF_2$	Cl
Et	6-Me	H	$SCHF_2$	Cl	Et	6-Cl	H	$SCHF_2$	Cl
i-Pr	6-Me	H	$SCHF_2$	Cl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl
t-Bu	6-Me	H	$SCHF_2$	Cl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl
Me	6-Me	H	OCF_3	Cl	Me	6-Cl	H	OCF_3	Cl
Et	6-Me	H	OCF_3	Cl	Et	6-Cl	H	OCF_3	Cl
i-Pr	6-Me	H	OCF_3	Cl	*i*-Pr	6-Cl	H	OCF_3	Cl
t-Bu	6-Me	H	OCF_3	Cl	*t*-Bu	6-Cl	H	OCF_3	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	6-Me	H	SCF_3	Cl	Me	6-Cl	H	SCF_3	Cl
Et	6-Me	H	SCF_3	Cl	Et	6-Cl	H	SCF_3	Cl
i-Pr	6-Me	H	SCF_3	Cl	*i*-Pr	6-Cl	H	SCF_3	Cl
t-Bu	6-Me	H	SCF_3	Cl	*t*-Bu	6-Cl	H	SCF_3	Cl
Me	6-Me	H	C_2F_5	Cl	Me	6-Cl	H	C_2F_5	Cl
Et	6-Me	H	C_2F_5	Cl	Et	6-Cl	H	C_2F_5	Cl
i-Pr	6-Me	H	C_2F_5	Cl	*i*-Pr	6-Cl	H	C_2F_5	Cl
t-Bu	6-Me	H	C_2F_5	Cl	*t*-Bu	6-Cl	H	C_2F_5	Cl
Me	6-Me	H	*n*-C_3F_7	Cl	Me	6-Cl	H	*n*-C_3F_7	Cl
Et	6-Me	H	*n*-C_3F_7	Cl	Et	6-Cl	H	*n*-C_3F_7	Cl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl
Me	6-Me	H	*i*-C_3F_7	Cl	Me	6-Cl	H	*i*-C_3F_7	Cl
Et	6-Me	H	*i*-C_3F_7	Cl	Et	6-Cl	H	*i*-C_3F_7	Cl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl
Me	6-Me	H	CN	Cl	Me	6-Cl	H	CN	Cl
Et	6-Me	H	CN	Cl	Et	6-Cl	H	CN	Cl
i-Pr	6-Me	H	CN	Cl	*i*-Pr	6-Cl	H	CN	Cl
t-Bu	6-Me	H	CN	Cl	*t*-Bu	6-Cl	H	CN	Cl
Me	6-Me	H	$OCHF_2$	Br	Me	6-Cl	H	$OCHF_2$	Br
Et	6-Me	H	$OCHF_2$	Br	Et	6-Cl	H	$OCHF_2$	Br
i-Pr	6-Me	H	$OCHF_2$	Br	*i*-Pr	6-Cl	H	$OCHF_2$	Br
t-Bu	6-Me	H	$OCHF_2$	Br	*t*-Bu	6-Cl	H	$OCHF_2$	Br
Me	6-Me	H	$SCHF_2$	Br	Me	6-Cl	H	$SCHF_2$	Br
Et	6-Me	H	$SCHF_2$	Br	Et	6-Cl	H	$SCHF_2$	Br
i-Pr	6-Me	H	$SCHF_2$	Br	*i*-Pr	6-Cl	H	$SCHF_2$	Br
t-Bu	6-Me	H	$SCHF_2$	Br	*t*-Bu	6-Cl	H	$SCHF_2$	Br
Me	6-Me	H	OCF_3	Br	Me	6-Cl	H	OCF_3	Br
Et	6-Me	H	OCF_3	Br	Et	6-Cl	H	OCF_3	Br
i-Pr	6-Me	H	OCF_3	Br	*i*-Pr	6-Cl	H	OCF_3	Br
t-Bu	6-Me	H	OCF_3	Br	*t*-Bu	6-Cl	H	OCF_3	Br
Me	6-Me	H	SCF_3	Br	Me	6-Cl	H	SCF_3	Br
Et	6-Me	H	SCF_3	Br	Et	6-Cl	H	SCF_3	Br
i-Pr	6-Me	H	SCF_3	Br	*i*-Pr	6-Cl	H	SCF_3	Br
t-Bu	6-Me	H	SCF_3	Br	*t*-Bu	6-Cl	H	SCF_3	Br
Me	6-Me	H	C_2F_5	Br	Me	6-Cl	H	C_2F_5	Br

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	6-Me	H	C_2F_5	Br	Et	6-Cl	H	C_2F_5	Br
i-Pr	6-Me	H	C_2F_5	Br	*i*-Pr	6-Cl	H	C_2F_5	Br
t-Bu	6-Me	H	C_2F_5	Br	*t*-Bu	6-Cl	H	C_2F_5	Br
Me	6-Me	H	*n*-C_3F_7	Br	Me	6-Cl	H	*n*-C_3F_7	Br
Et	6-Me	H	*n*-C_3F_7	Br	Et	6-Cl	H	*n*-C_3F_7	Br
i-Pr	6-Me	H	*n*-C_3F_7	Br	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br
t-Bu	6-Me	H	*n*-C_3F_7	Br	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br
Me	6-Me	H	*i*-C_3F_7	Br	Me	6-Cl	H	*i*-C_3F_7	Br
Et	6-Me	H	*i*-C_3F_7	Br	Et	6-Cl	H	*i*-C_3F_7	Br
i-Pr	6-Me	H	*i*-C_3F_7	Br	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br
t-Bu	6-Me	H	*i*-C_3F_7	Br	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br
Me	6-Me	H	CN	Br	Me	6-Cl	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-Cl	H	CN	Br
i-Pr	6-Me	H	CN	Br	*i*-Pr	6-Cl	H	CN	Br
t-Bu	6-Me	H	CN	Br	*t*-Bu	6-Cl	H	CN	Br
Me	6-Me	H	$OCHF_2$	CF_3	Me	6-Cl	H	$OCHF_2$	CF_3
Et	6-Me	H	$OCHF_2$	CF_3	Et	6-Cl	H	$OCHF_2$	CF_3
i-Pr	6-Me	H	$OCHF_2$	CF_3	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3
t-Bu	6-Me	H	$OCHF_2$	CF_3	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3
Me	6-Me	H	$SCHF_2$	CF_3	Me	6-Cl	H	$SCHF_2$	CF_3
Et	6-Me	H	$SCHF_2$	CF_3	Et	6-Cl	H	$SCHF_2$	CF_3
i-Pr	6-Me	H	$SCHF_2$	CF_3	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3
t-Bu	6-Me	H	$SCHF_2$	CF_3	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3
Me	6-Me	H	OCF_3	CF_3	Me	6-Cl	H	OCF_3	CF_3
Et	6-Me	H	OCF_3	CF_3	Et	6-Cl	H	OCF_3	CF_3
i-Pr	6-Me	H	OCF_3	CF_3	*i*-Pr	6-Cl	H	OCF_3	CF_3
t-Bu	6-Me	H	OCF_3	CF_3	*t*-Bu	6-Cl	H	OCF_3	CF_3
Me	6-Me	H	SCF_3	CF_3	Me	6-Cl	H	SCF_3	CF_3
Et	6-Me	H	SCF_3	CF_3	Et	6-Cl	H	SCF_3	CF_3
i-Pr	6-Me	H	SCF_3	CF_3	*i*-Pr	6-Cl	H	SCF_3	CF_3
t-Bu	6-Me	H	SCF_3	CF_3	*t*-Bu	6-Cl	H	SCF_3	CF_3
Me	6-Me	H	C_2F_5	CF_3	Me	6-Cl	H	C_2F_5	CF_3
Et	6-Me	H	C_2F_5	CF_3	Et	6-Cl	H	C_2F_5	CF_3
i-Pr	6-Me	H	C_2F_5	CF_3	*i*-Pr	6-Cl	H	C_2F_5	CF_3
t-Bu	6-Me	H	C_2F_5	CF_3	*t*-Bu	6-Cl	H	C_2F_5	CF_3
Me	6-Me	H	*n*-C_3F_7	CF_3	Me	6-Cl	H	*n*-C_3F_7	CF_3
Et	6-Me	H	*n*-C_3F_7	CF_3	Et	6-Cl	H	*n*-C_3F_7	CF_3

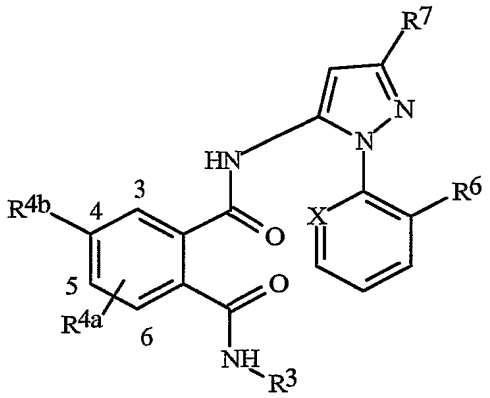
R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3
Me	6-Me	H	*i*-C_3F_7	CF_3	Me	6-Cl	H	*i*-C_3F_7	CF_3
Et	6-Me	H	*i*-C_3F_7	CF_3	Et	6-Cl	H	*i*-C_3F_7	CF_3
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3
Me	6-Me	H	CN	CF_3	Me	6-Cl	H	CN	CF_3
Et	6-Me	H	CN	CF_3	Et	6-Cl	H	CN	CF_3
i-Pr	6-Me	H	CN	CF_3	*i*-Pr	6-Cl	H	CN	CF_3
t-Bu	6-Me	H	CN	CF_3	*t*-Bu	6-Cl	H	CN	CF_3
Me	6-Me	Cl	$OCHF_2$	F	Me	6-Cl	Cl	$OCHF_2$	F
Et	6-Me	Cl	$OCHF_2$	F	Et	6-Cl	Cl	$OCHF_2$	F
i-Pr	6-Me	Cl	$OCHF_2$	F	*i*-Pr	6-Cl	Cl	$OCHF_2$	F
t-Bu	6-Me	Cl	$OCHF_2$	F	*t*-Bu	6-Cl	Cl	$OCHF_2$	F
Me	6-Me	Cl	$SCHF_2$	F	Me	6-Cl	Cl	$SCHF_2$	F
Et	6-Me	Cl	$SCHF_2$	F	Et	6-Cl	Cl	$SCHF_2$	F
i-Pr	6-Me	Cl	$SCHF_2$	F	*i*-Pr	6-Cl	Cl	$SCHF_2$	F
t-Bu	6-Me	Cl	$SCHF_2$	F	*t*-Bu	6-Cl	Cl	$SCHF_2$	F
Me	6-Me	Cl	OCF_3	F	Me	6-Cl	Cl	OCF_3	F
Et	6-Me	Cl	OCF_3	F	Et	6-Cl	Cl	OCF_3	F
i-Pr	6-Me	Cl	OCF_3	F	*i*-Pr	6-Cl	Cl	OCF_3	F
t-Bu	6-Me	Cl	OCF_3	F	*t*-Bu	6-Cl	Cl	OCF_3	F
Me	6-Me	Cl	SCF_3	F	Me	6-Cl	Cl	SCF_3	F
Et	6-Me	Cl	SCF_3	F	Et	6-Cl	Cl	SCF_3	F
i-Pr	6-Me	Cl	SCF_3	F	*i*-Pr	6-Cl	Cl	SCF_3	F
t-Bu	6-Me	Cl	SCF_3	F	*t*-Bu	6-Cl	Cl	SCF_3	F
Me	6-Me	Cl	C_2F_5	F	Me	6-Cl	Cl	C_2F_5	F
Et	6-Me	Cl	C_2F_5	F	Et	6-Cl	Cl	C_2F_5	F
i-Pr	6-Me	Cl	C_2F_5	F	*i*-Pr	6-Cl	Cl	C_2F_5	F
t-Bu	6-Me	Cl	C_2F_5	F	*t*-Bu	6-Cl	Cl	C_2F_5	F
Me	6-Me	Cl	*n*-C_3F_7	F	Me	6-Cl	Cl	*n*-C_3F_7	F
Et	6-Me	Cl	*n*-C_3F_7	F	Et	6-Cl	Cl	*n*-C_3F_7	F
i-Pr	6-Me	Cl	*n*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F
t-Bu	6-Me	Cl	*n*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F
Me	6-Me	Cl	*i*-C_3F_7	F	Me	6-Cl	Cl	*i*-C_3F_7	F
Et	6-Me	Cl	*i*-C_3F_7	F	Et	6-Cl	Cl	*i*-C_3F_7	F
i-Pr	6-Me	Cl	*i*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	6-Me	Cl	*i*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F
Me	6-Me	Cl	CN	F	Me	6-Cl	Cl	CN	F
Et	6-Me	Cl	CN	F	Et	6-Cl	Cl	CN	F
i-Pr	6-Me	Cl	CN	F	*i*-Pr	6-Cl	Cl	CN	F
t-Bu	6-Me	Cl	CN	F	*t*-Bu	6-Cl	Cl	CN	F
Me	6-Me	Cl	$OCHF_2$	Cl	Me	6-Cl	Cl	$OCHF_2$	Cl
Et	6-Me	Cl	$OCHF_2$	Cl	Et	6-Cl	Cl	$OCHF_2$	Cl
i-Pr	6-Me	Cl	$OCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl
t-Bu	6-Me	Cl	$OCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl
Me	6-Me	Cl	$SCHF_2$	Cl	Me	6-Cl	Cl	$SCHF_2$	Cl
Et	6-Me	Cl	$SCHF_2$	Cl	Et	6-Cl	Cl	$SCHF_2$	Cl
i-Pr	6-Me	Cl	$SCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl
t-Bu	6-Me	Cl	$SCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl
Me	6-Me	Cl	OCF_3	Cl	Me	6-Cl	Cl	OCF_3	Cl
Et	6-Me	Cl	OCF_3	Cl	Et	6-Cl	Cl	OCF_3	Cl
i-Pr	6-Me	Cl	OCF_3	Cl	*i*-Pr	6-Cl	Cl	OCF_3	Cl
t-Bu	6-Me	Cl	OCF_3	Cl	*t*-Bu	6-Cl	Cl	OCF_3	Cl
Me	6-Me	Cl	SCF_3	Cl	Me	6-Cl	Cl	SCF_3	Cl
Et	6-Me	Cl	SCF_3	Cl	Et	6-Cl	Cl	SCF_3	Cl
i-Pr	6-Me	Cl	SCF_3	Cl	*i*-Pr	6-Cl	Cl	SCF_3	Cl
t-Bu	6-Me	Cl	SCF_3	Cl	*t*-Bu	6-Cl	Cl	SCF_3	Cl
Me	6-Me	Cl	C_2F_5	Cl	Me	6-Cl	Cl	C_2F_5	Cl
Et	6-Me	Cl	C_2F_5	Cl	Et	6-Cl	Cl	C_2F_5	Cl
i-Pr	6-Me	Cl	C_2F_5	Cl	*i*-Pr	6-Cl	Cl	C_2F_5	Cl
t-Bu	6-Me	Cl	C_2F_5	Cl	*t*-Bu	6-Cl	Cl	C_2F_5	Cl
Me	6-Me	Cl	*n*-C_3F_7	Cl	Me	6-Cl	Cl	*n*-C_3F_7	Cl
Et	6-Me	Cl	*n*-C_3F_7	Cl	Et	6-Cl	Cl	*n*-C_3F_7	Cl
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl
Me	6-Me	Cl	*i*-C_3F_7	Cl	Me	6-Cl	Cl	*i*-C_3F_7	Cl
Et	6-Me	Cl	*i*-C_3F_7	Cl	Et	6-Cl	Cl	*i*-C_3F_7	Cl
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl
Me	6-Me	Cl	CN	Cl	Me	6-Cl	Cl	CN	Cl
Et	6-Me	Cl	CN	Cl	Et	6-Cl	Cl	CN	Cl
i-Pr	6-Me	Cl	CN	Cl	*i*-Pr	6-Cl	Cl	CN	Cl
t-Bu	6-Me	Cl	CN	Cl	*t*-Bu	6-Cl	Cl	CN	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	6-Me	Cl	$OCHF_2$	Br	Me	6-Cl	Cl	$OCHF_2$	Br
Et	6-Me	Cl	$OCHF_2$	Br	Et	6-Cl	Cl	$OCHF_2$	Br
i-Pr	6-Me	Cl	$OCHF_2$	Br	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br
t-Bu	6-Me	Cl	$OCHF_2$	Br	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br
Me	6-Me	Cl	$SCHF_2$	Br	Me	6-Cl	Cl	$SCHF_2$	Br
Et	6-Me	Cl	$SCHF_2$	Br	Et	6-Cl	Cl	$SCHF_2$	Br
i-Pr	6-Me	Cl	$SCHF_2$	Br	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br
t-Bu	6-Me	Cl	$SCHF_2$	Br	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br
Me	6-Me	Cl	OCF_3	Br	Me	6-Cl	Cl	OCF_3	Br
Et	6-Me	Cl	OCF_3	Br	Et	6-Cl	Cl	OCF_3	Br
i-Pr	6-Me	Cl	OCF_3	Br	*i*-Pr	6-Cl	Cl	OCF_3	Br
t-Bu	6-Me	Cl	OCF_3	Br	*t*-Bu	6-Cl	Cl	OCF_3	Br
Me	6-Me	Cl	SCF_3	Br	Me	6-Cl	Cl	SCF_3	Br
Et	6-Me	Cl	SCF_3	Br	Et	6-Cl	Cl	SCF_3	Br
i-Pr	6-Me	Cl	SCF_3	Br	*i*-Pr	6-Cl	Cl	SCF_3	Br
t-Bu	6-Me	Cl	SCF_3	Br	*t*-Bu	6-Cl	Cl	SCF_3	Br
Me	6-Me	Cl	C_2F_5	Br	Me	6-Cl	Cl	C_2F_5	Br
Et	6-Me	Cl	C_2F_5	Br	Et	6-Cl	Cl	C_2F_5	Br
i-Pr	6-Me	Cl	C_2F_5	Br	*i*-Pr	6-Cl	Cl	C_2F_5	Br
t-Bu	6-Me	Cl	C_2F_5	Br	*t*-Bu	6-Cl	Cl	C_2F_5	Br
Me	6-Me	Cl	*n*-C_3F_7	Br	Me	6-Cl	Cl	*n*-C_3F_7	Br
Et	6-Me	Cl	*n*-C_3F_7	Br	Et	6-Cl	Cl	*n*-C_3F_7	Br
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br
Me	6-Me	Cl	*i*-C_3F_7	Br	Me	6-Cl	Cl	*i*-C_3F_7	Br
Et	6-Me	Cl	*i*-C_3F_7	Br	Et	6-Cl	Cl	*i*-C_3F_7	Br
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br
Me	6-Me	Cl	CN	Br	Me	6-Cl	Cl	CN	Br
Et	6-Me	Cl	CN	Br	Et	6-Cl	Cl	CN	Br
i-Pr	6-Me	Cl	CN	Br	*i*-Pr	6-Cl	Cl	CN	Br
t-Bu	6-Me	Cl	CN	Br	*t*-Bu	6-Cl	Cl	CN	Br
Me	6-Me	Cl	$OCHF_2$	CF_3	Me	6-Cl	Cl	$OCHF_2$	CF_3
Et	6-Me	Cl	$OCHF_2$	CF_3	Et	6-Cl	Cl	$OCHF_2$	CF_3
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3
Me	6-Me	Cl	$SCHF_2$	CF_3	Me	6-Cl	Cl	$SCHF_2$	CF_3

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	6-Me	Cl	$SCHF_2$	CF_3	Et	6-Cl	Cl	$SCHF_2$	CF_3
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3
Me	6-Me	Cl	OCF_3	CF_3	Me	6-Cl	Cl	OCF_3	CF_3
Et	6-Me	Cl	OCF_3	CF_3	Et	6-Cl	Cl	OCF_3	CF_3
i-Pr	6-Me	Cl	OCF_3	CF_3	*i*-Pr	6-Cl	Cl	OCF_3	CF_3
t-Bu	6-Me	Cl	OCF_3	CF_3	*t*-Bu	6-Cl	Cl	OCF_3	CF_3
Me	6-Me	Cl	SCF_3	CF_3	Me	6-Cl	Cl	SCF_3	CF_3
Et	6-Me	Cl	SCF_3	CF_3	Et	6-Cl	Cl	SCF_3	CF_3
i-Pr	6-Me	Cl	SCF_3	CF_3	*i*-Pr	6-Cl	Cl	SCF_3	CF_3
t-Bu	6-Me	Cl	SCF_3	CF_3	*t*-Bu	6-Cl	Cl	SCF_3	CF_3
Me	6-Me	Cl	C_2F_5	CF_3	Me	6-Cl	Cl	C_2F_5	CF_3
Et	6-Me	Cl	C_2F_5	CF_3	Et	6-Cl	Cl	C_2F_5	CF_3
i-Pr	6-Me	Cl	C_2F_5	CF_3	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3
t-Bu	6-Me	Cl	C_2F_5	CF_3	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3
Me	6-Me	Cl	*n*-C_3F_7	CF_3	Me	6-Cl	Cl	*n*-C_3F_7	CF_3
Et	6-Me	Cl	*n*-C_3F_7	CF_3	Et	6-Cl	Cl	*n*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3
Me	6-Me	Cl	*i*-C_3F_7	CF_3	Me	6-Cl	Cl	*i*-C_3F_7	CF_3
Et	6-Me	Cl	*i*-C_3F_7	CF_3	Et	6-Cl	Cl	*i*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3
Me	6-Me	Cl	CN	CF_3	Me	6-Cl	Cl	CN	CF_3
Et	6-Me	Cl	CN	CF_3	Et	6-Cl	Cl	CN	CF_3
i-Pr	6-Me	Cl	CN	CF_3	*i*-Pr	6-Cl	Cl	CN	CF_3
t-Bu	6-Me	Cl	CN	CF_3	*t*-Bu	6-Cl	Cl	CN	CF_3

Table 3



R3	R4a	R4b	R7	R6	X	R3	R4a	R4b	R7	R6	X
Me	6-Me	H	$OCHF_2$	F	CH	Me	6-Cl	H	$OCHF_2$	F	CH
Et	6-Me	H	$OCHF_2$	F	CH	Et	6-Cl	H	$OCHF_2$	F	CH
i-Pr	6-Me	H	$OCHF_2$	F	CH	*i*-Pr	6-Cl	H	$OCHF_2$	F	CH
t-Bu	6-Me	H	$OCHF_2$	F	CH	*t*-Bu	6-Cl	H	$OCHF_2$	F	CH
Me	6-Me	H	$SCHF_2$	F	CH	Me	6-Cl	H	$SCHF_2$	F	CH
Et	6-Me	H	$SCHF_2$	F	CH	Et	6-Cl	H	$SCHF_2$	F	CH
i-Pr	6-Me	H	$SCHF_2$	F	CH	*i*-Pr	6-Cl	H	$SCHF_2$	F	CH
t-Bu	6-Me	H	$SCHF_2$	F	CH	*t*-Bu	6-Cl	H	$SCHF_2$	F	CH
Me	6-Me	H	OCF_3	F	CH	Me	6-Cl	H	OCF_3	F	CH
Et	6-Me	H	OCF_3	F	CH	Et	6-Cl	H	OCF_3	F	CH
i-Pr	6-Me	H	OCF_3	F	CH	*i*-Pr	6-Cl	H	OCF_3	F	CH
t-Bu	6-Me	H	OCF_3	F	CH	*t*-Bu	6-Cl	H	OCF_3	F	CH
Me	6-Me	H	SCF_3	F	CH	Me	6-Cl	H	SCF_3	F	CH
Et	6-Me	H	SCF_3	F	CH	Et	6-Cl	H	SCF_3	F	CH
i-Pr	6-Me	H	SCF_3	F	CH	*i*-Pr	6-Cl	H	SCF_3	F	CH
t-Bu	6-Me	H	SCF_3	F	CH	*t*-Bu	6-Cl	H	SCF_3	F	CH
Me	6-Me	H	C_2F_5	F	CH	Me	6-Cl	H	C_2F_5	F	CH
Et	6-Me	H	C_2F_5	F	CH	Et	6-Cl	H	C_2F_5	F	CH
i-Pr	6-Me	H	C_2F_5	F	CH	*i*-Pr	6-Cl	H	C_2F_5	F	CH
t-Bu	6-Me	H	C_2F_5	F	CH	*t*-Bu	6-Cl	H	C_2F_5	F	CH
Me	6-Me	H	*n*-C_3F_7	F	CH	Me	6-Cl	H	*n*-C_3F_7	F	CH
Et	6-Me	H	*n*-C_3F_7	F	CH	Et	6-Cl	H	*n*-C_3F_7	F	CH
i-Pr	6-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CH
t-Bu	6-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CH
Me	6-Me	H	*i*-C_3F_7	F	CH	Me	6-Cl	H	*i*-C_3F_7	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	H	i-C_3F_7	F	CH	Et	6-Cl	H	i-C_3F_7	F	CH
i-Pr	6-Me	H	i-C_3F_7	F	CH	i-Pr	6-Cl	H	i-C_3F_7	F	CH
t-Bu	6-Me	H	i-C_3F_7	F	CH	t-Bu	6-Cl	H	i-C_3F_7	F	CH
Me	6-Me	H	CN	F	CH	Me	6-Cl	H	CN	F	CH
Et	6-Me	H	CN	F	CH	Et	6-Cl	H	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	i-Pr	6-Cl	H	CN	F	CH
t-Bu	6-Me	H	CN	F	CH	t-Bu	6-Cl	H	CN	F	CH
Me	6-Me	H	$OCHF_2$	Cl	CH	Me	6-Cl	H	$OCHF_2$	Cl	CH
Et	6-Me	H	$OCHF_2$	Cl	CH	Et	6-Cl	H	$OCHF_2$	Cl	CH
i-Pr	6-Me	H	$OCHF_2$	Cl	CH	i-Pr	6-Cl	H	$OCHF_2$	Cl	CH
t-Bu	6-Me	H	$OCHF_2$	Cl	CH	t-Bu	6-Cl	H	$OCHF_2$	Cl	CH
Me	6-Me	H	$SCHF_2$	Cl	CH	Me	6-Cl	H	$SCHF_2$	Cl	CH
Et	6-Me	H	$SCHF_2$	Cl	CH	Et	6-Cl	H	$SCHF_2$	Cl	CH
i-Pr	6-Me	H	$SCHF_2$	Cl	CH	i-Pr	6-Cl	H	$SCHF_2$	Cl	CH
t-Bu	6-Me	H	$SCHF_2$	Cl	CH	t-Bu	6-Cl	H	$SCHF_2$	Cl	CH
Me	6-Me	H	OCF_3	Cl	CH	Me	6-Cl	H	OCF_3	Cl	CH
Et	6-Me	H	OCF_3	Cl	CH	Et	6-Cl	H	OCF_3	Cl	CH
i-Pr	6-Me	H	OCF_3	Cl	CH	i-Pr	6-Cl	H	OCF_3	Cl	CH
t-Bu	6-Me	H	OCF_3	Cl	CH	t-Bu	6-Cl	H	OCF_3	Cl	CH
Me	6-Me	H	SCF_3	Cl	CH	Me	6-Cl	H	SCF_3	Cl	CH
Et	6-Me	H	SCF_3	Cl	CH	Et	6-Cl	H	SCF_3	Cl	CH
i-Pr	6-Me	H	SCF_3	Cl	CH	i-Pr	6-Cl	H	SCF_3	Cl	CH
t-Bu	6-Me	H	SCF_3	Cl	CH	t-Bu	6-Cl	H	SCF_3	Cl	CH
Me	6-Me	H	C_2F_5	Cl	CH	Me	6-Cl	H	C_2F_5	Cl	CH
Et	6-Me	H	C_2F_5	Cl	CH	Et	6-Cl	H	C_2F_5	Cl	CH
i-Pr	6-Me	H	C_2F_5	Cl	CH	i-Pr	6-Cl	H	C_2F_5	Cl	CH
t-Bu	6-Me	H	C_2F_5	Cl	CH	t-Bu	6-Cl	H	C_2F_5	Cl	CH
Me	6-Me	H	n-C_3F_7	Cl	CH	Me	6-Cl	H	n-C_3F_7	Cl	CH
Et	6-Me	H	n-C_3F_7	Cl	CH	Et	6-Cl	H	n-C_3F_7	Cl	CH
i-Pr	6-Me	H	n-C_3F_7	Cl	CH	i-Pr	6-Cl	H	n-C_3F_7	Cl	CH
t-Bu	6-Me	H	n-C_3F_7	Cl	CH	t-Bu	6-Cl	H	n-C_3F_7	Cl	CH
Me	6-Me	H	i-C_3F_7	Cl	CH	Me	6-Cl	H	i-C_3F_7	Cl	CH
Et	6-Me	H	i-C_3F_7	Cl	CH	Et	6-Cl	H	i-C_3F_7	Cl	CH
i-Pr	6-Me	H	i-C_3F_7	Cl	CH	i-Pr	6-Cl	H	i-C_3F_7	Cl	CH
t-Bu	6-Me	H	i-C_3F_7	Cl	CH	t-Bu	6-Cl	H	i-C_3F_7	Cl	CH
Me	6-Me	H	CN	Cl	CH	Me	6-Cl	H	CN	Cl	CH
Et	6-Me	H	CN	Cl	CH	Et	6-Cl	H	CN	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	H	CN	Cl	CH	*i*-Pr	6-Cl	H	CN	Cl	CH
t-Bu	6-Me	H	CN	Cl	CH	*t*-Bu	6-Cl	H	CN	Cl	CH
Me	6-Me	H	$OCHF_2$	Br	CH	Me	6-Cl	H	$OCHF_2$	Br	CH
Et	6-Me	H	$OCHF_2$	Br	CH	Et	6-Cl	H	$OCHF_2$	Br	CH
i-Pr	6-Me	H	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Br	CH
t-Bu	6-Me	H	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Br	CH
Me	6-Me	H	$SCHF_2$	Br	CH	Me	6-Cl	H	$SCHF_2$	Br	CH
Et	6-Me	H	$SCHF_2$	Br	CH	Et	6-Cl	H	$SCHF_2$	Br	CH
i-Pr	6-Me	H	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Br	CH
t-Bu	6-Me	H	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Br	CH
Me	6-Me	H	OCF_3	Br	CH	Me	6-Cl	H	OCF_3	Br	CH
Et	6-Me	H	OCF_3	Br	CH	Et	6-Cl	H	OCF_3	Br	CH
i-Pr	6-Me	H	OCF_3	Br	CH	*i*-Pr	6-Cl	H	OCF_3	Br	CH
t-Bu	6-Me	H	OCF_3	Br	CH	*t*-Bu	6-Cl	H	OCF_3	Br	CH
Me	6-Me	H	SCF_3	Br	CH	Me	6-Cl	H	SCF_3	Br	CH
Et	6-Me	H	SCF_3	Br	CH	Et	6-Cl	H	SCF_3	Br	CH
i-Pr	6-Me	H	SCF_3	Br	CH	*i*-Pr	6-Cl	H	SCF_3	Br	CH
t-Bu	6-Me	H	SCF_3	Br	CH	*t*-Bu	6-Cl	H	SCF_3	Br	CH
Me	6-Me	H	C_2F_5	Br	CH	Me	6-Cl	H	C_2F_5	Br	CH
Et	6-Me	H	C_2F_5	Br	CH	Et	6-Cl	H	C_2F_5	Br	CH
i-Pr	6-Me	H	C_2F_5	Br	CH	*i*-Pr	6-Cl	H	C_2F_5	Br	CH
t-Bu	6-Me	H	C_2F_5	Br	CH	*t*-Bu	6-Cl	H	C_2F_5	Br	CH
Me	6-Me	H	*n*-C_3F_7	Br	CH	Me	6-Cl	H	*n*-C_3F_7	Br	CH
Et	6-Me	H	*n*-C_3F_7	Br	CH	Et	6-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	6-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	6-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br	CH
Me	6-Me	H	*i*-C_3F_7	Br	CH	Me	6-Cl	H	*i*-C_3F_7	Br	CH
Et	6-Me	H	*i*-C_3F_7	Br	CH	Et	6-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	6-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	6-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-Cl	H	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-Cl	H	CN	Br	CH
i-Pr	6-Me	H	CN	Br	CH	*i*-Pr	6-Cl	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	*t*-Bu	6-Cl	H	CN	Br	CH
Me	6-Me	H	$OCHF_2$	CF_3	CH	Me	6-Cl	H	$OCHF_2$	CF_3	CH
Et	6-Me	H	$OCHF_2$	CF_3	CH	Et	6-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	6-Me	H	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	H	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3	CH
Me	6-Me	H	$SCHF_2$	CF_3	CH	Me	6-Cl	H	$SCHF_2$	CF_3	CH
Et	6-Me	H	$SCHF_2$	CF_3	CH	Et	6-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	6-Me	H	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	6-Me	H	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3	CH
Me	6-Me	H	OCF_3	CF_3	CH	Me	6-Cl	H	OCF_3	CF_3	CH
Et	6-Me	H	OCF_3	CF_3	CH	Et	6-Cl	H	OCF_3	CF_3	CH
i-Pr	6-Me	H	OCF_3	CF_3	CH	*i*-Pr	6-Cl	H	OCF_3	CF_3	CH
t-Bu	6-Me	H	OCF_3	CF_3	CH	*t*-Bu	6-Cl	H	OCF_3	CF_3	CH
Me	6-Me	H	SCF_3	CF_3	CH	Me	6-Cl	H	SCF_3	CF_3	CH
Et	6-Me	H	SCF_3	CF_3	CH	Et	6-Cl	H	SCF_3	CF_3	CH
i-Pr	6-Me	H	SCF_3	CF_3	CH	*i*-Pr	6-Cl	H	SCF_3	CF_3	CH
t-Bu	6-Me	H	SCF_3	CF_3	CH	*t*-Bu	6-Cl	H	SCF_3	CF_3	CH
Me	6-Me	H	C_2F_5	CF_3	CH	Me	6-Cl	H	C_2F_5	CF_3	CH
Et	6-Me	H	C_2F_5	CF_3	CH	Et	6-Cl	H	C_2F_5	CF_3	CH
i-Pr	6-Me	H	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	H	C_2F_5	CF_3	CH
t-Bu	6-Me	H	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	H	C_2F_5	CF_3	CH
Me	6-Me	H	*n*-C_3F_7	CF_3	CH	Me	6-Cl	H	*n*-C_3F_7	CF_3	CH
Et	6-Me	H	*n*-C_3F_7	CF_3	CH	Et	6-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3	CH
Me	6-Me	H	*i*-C_3F_7	CF_3	CH	Me	6-Cl	H	*i*-C_3F_7	CF_3	CH
Et	6-Me	H	*i*-C_3F_7	CF_3	CH	Et	6-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3	CH
Me	6-Me	H	CN	CF_3	CH	Me	6-Cl	H	CN	CF_3	CH
Et	6-Me	H	CN	CF_3	CH	Et	6-Cl	H	CN	CF_3	CH
i-Pr	6-Me	H	CN	CF_3	CH	*i*-Pr	6-Cl	H	CN	CF_3	CH
t-Bu	6-Me	H	CN	CF_3	CH	*t*-Bu	6-Cl	H	CN	CF_3	CH
Me	6-Me	Cl	$OCHF_2$	F	CH	Me	6-Cl	Cl	$OCHF_2$	F	CH
Et	6-Me	Cl	$OCHF_2$	F	CH	Et	6-Cl	Cl	$OCHF_2$	F	CH
i-Pr	6-Me	Cl	$OCHF_2$	F	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	F	CH
t-Bu	6-Me	Cl	$OCHF_2$	F	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	F	CH
Me	6-Me	Cl	$SCHF_2$	F	CH	Me	6-Cl	Cl	$SCHF_2$	F	CH
Et	6-Me	Cl	$SCHF_2$	F	CH	Et	6-Cl	Cl	$SCHF_2$	F	CH
i-Pr	6-Me	Cl	$SCHF_2$	F	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	F	CH
t-Bu	6-Me	Cl	$SCHF_2$	F	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	Cl	OCF_3	F	CH	Me	6-Cl	Cl	OCF_3	F	CH
Et	6-Me	Cl	OCF_3	F	CH	Et	6-Cl	Cl	OCF_3	F	CH
i-Pr	6-Me	Cl	OCF_3	F	CH	*i*-Pr	6-Cl	Cl	OCF_3	F	CH
t-Bu	6-Me	Cl	OCF_3	F	CH	*t*-Bu	6-Cl	Cl	OCF_3	F	CH
Me	6-Me	Cl	SCF_3	F	CH	Me	6-Cl	Cl	SCF_3	F	CH
Et	6-Me	Cl	SCF_3	F	CH	Et	6-Cl	Cl	SCF_3	F	CH
i-Pr	6-Me	Cl	SCF_3	F	CH	*i*-Pr	6-Cl	Cl	SCF_3	F	CH
t-Bu	6-Me	Cl	SCF_3	F	CH	*t*-Bu	6-Cl	Cl	SCF_3	F	CH
Me	6-Me	Cl	C_2F_5	F	CH	Me	6-Cl	Cl	C_2F_5	F	CH
Et	6-Me	Cl	C_2F_5	F	CH	Et	6-Cl	Cl	C_2F_5	F	CH
i-Pr	6-Me	Cl	C_2F_5	F	CH	*i*-Pr	6-Cl	Cl	C_2F_5	F	CH
t-Bu	6-Me	Cl	C_2F_5	F	CH	*t*-Bu	6-Cl	Cl	C_2F_5	F	CH
Me	6-Me	Cl	*n*-C_3F_7	F	CH	Me	6-Cl	Cl	*n*-C_3F_7	F	CH
Et	6-Me	Cl	*n*-C_3F_7	F	CH	Et	6-Cl	Cl	*n*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F	CH
Me	6-Me	Cl	*i*-C_3F_7	F	CH	Me	6-Cl	Cl	*i*-C_3F_7	F	CH
Et	6-Me	Cl	*i*-C_3F_7	F	CH	Et	6-Cl	Cl	*i*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-Cl	Cl	CN	F	CH
Et	6-Me	Cl	CN	F	CH	Et	6-Cl	Cl	CN	F	CH
i-Pr	6-Me	Cl	CN	F	CH	*i*-Pr	6-Cl	Cl	CN	F	CH
t-Bu	6-Me	Cl	CN	F	CH	*t*-Bu	6-Cl	Cl	CN	F	CH
Me	6-Me	Cl	$OCHF_2$	Cl	CH	Me	6-Cl	Cl	$OCHF_2$	Cl	CH
Et	6-Me	Cl	$OCHF_2$	Cl	CH	Et	6-Cl	Cl	$OCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl	CH
Me	6-Me	Cl	$SCHF_2$	Cl	CH	Me	6-Cl	Cl	$SCHF_2$	Cl	CH
Et	6-Me	Cl	$SCHF_2$	Cl	CH	Et	6-Cl	Cl	$SCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl	CH
Me	6-Me	Cl	OCF_3	Cl	CH	Me	6-Cl	Cl	OCF_3	Cl	CH
Et	6-Me	Cl	OCF_3	Cl	CH	Et	6-Cl	Cl	OCF_3	Cl	CH
i-Pr	6-Me	Cl	OCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	OCF_3	Cl	CH
t-Bu	6-Me	Cl	OCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	OCF_3	Cl	CH
Me	6-Me	Cl	SCF_3	Cl	CH	Me	6-Cl	Cl	SCF_3	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	Cl	SCF_3	Cl	CH	Et	6-Cl	Cl	SCF_3	Cl	CH
i-Pr	6-Me	Cl	SCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	SCF_3	Cl	CH
t-Bu	6-Me	Cl	SCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	SCF_3	Cl	CH
Me	6-Me	Cl	C_2F_5	Cl	CH	Me	6-Cl	Cl	C_2F_5	Cl	CH
Et	6-Me	Cl	C_2F_5	Cl	CH	Et	6-Cl	Cl	C_2F_5	Cl	CH
i-Pr	6-Me	Cl	C_2F_5	Cl	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Cl	CH
t-Bu	6-Me	Cl	C_2F_5	Cl	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Cl	CH
Me	6-Me	Cl	*n*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Et	6-Me	Cl	*n*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Me	6-Me	Cl	*i*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Et	6-Me	Cl	*i*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Me	6-Me	Cl	CN	Cl	CH	Me	6-Cl	Cl	CN	Cl	CH
Et	6-Me	Cl	CN	Cl	CH	Et	6-Cl	Cl	CN	Cl	CH
i-Pr	6-Me	Cl	CN	Cl	CH	*i*-Pr	6-Cl	Cl	CN	Cl	CH
t-Bu	6-Me	Cl	CN	Cl	CH	*t*-Bu	6-Cl	Cl	CN	Cl	CH
Me	6-Me	Cl	$OCHF_2$	Br	CH	Me	6-Cl	Cl	$OCHF_2$	Br	CH
Et	6-Me	Cl	$OCHF_2$	Br	CH	Et	6-Cl	Cl	$OCHF_2$	Br	CH
i-Pr	6-Me	Cl	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br	CH
t-Bu	6-Me	Cl	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br	CH
Me	6-Me	Cl	$SCHF_2$	Br	CH	Me	6-Cl	Cl	$SCHF_2$	Br	CH
Et	6-Me	Cl	$SCHF_2$	Br	CH	Et	6-Cl	Cl	$SCHF_2$	Br	CH
i-Pr	6-Me	Cl	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br	CH
t-Bu	6-Me	Cl	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br	CH
Me	6-Me	Cl	OCF_3	Br	CH	Me	6-Cl	Cl	OCF_3	Br	CH
Et	6-Me	Cl	OCF_3	Br	CH	Et	6-Cl	Cl	OCF_3	Br	CH
i-Pr	6-Me	Cl	OCF_3	Br	CH	*i*-Pr	6-Cl	Cl	OCF_3	Br	CH
t-Bu	6-Me	Cl	OCF_3	Br	CH	*t*-Bu	6-Cl	Cl	OCF_3	Br	CH
Me	6-Me	Cl	SCF_3	Br	CH	Me	6-Cl	Cl	SCF_3	Br	CH
Et	6-Me	Cl	SCF_3	Br	CH	Et	6-Cl	Cl	SCF_3	Br	CH
i-Pr	6-Me	Cl	SCF_3	Br	CH	*i*-Pr	6-Cl	Cl	SCF_3	Br	CH
t-Bu	6-Me	Cl	SCF_3	Br	CH	*t*-Bu	6-Cl	Cl	SCF_3	Br	CH
Me	6-Me	Cl	C_2F_5	Br	CH	Me	6-Cl	Cl	C_2F_5	Br	CH
Et	6-Me	Cl	C_2F_5	Br	CH	Et	6-Cl	Cl	C_2F_5	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	Cl	C_2F_5	Br	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Br	CH
t-Bu	6-Me	Cl	C_2F_5	Br	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Br	CH
Me	6-Me	Cl	*n*-C_3F_7	Br	CH	Me	6-Cl	Cl	*n*-C_3F_7	Br	CH
Et	6-Me	Cl	*n*-C_3F_7	Br	CH	Et	6-Cl	Cl	*n*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br	CH
Me	6-Me	Cl	*i*-C_3F_7	Br	CH	Me	6-Cl	Cl	*i*-C_3F_7	Br	CH
Et	6-Me	Cl	*i*-C_3F_7	Br	CH	Et	6-Cl	Cl	*i*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br	CH
Me	6-Me	Cl	CN	Br	CH	Me	6-Cl	Cl	CN	Br	CH
Et	6-Me	Cl	CN	Br	CH	Et	6-Cl	Cl	CN	Br	CH
i-Pr	6-Me	Cl	CN	Br	CH	*i*-Pr	6-Cl	Cl	CN	Br	CH
t-Bu	6-Me	Cl	CN	Br	CH	*t*-Bu	6-Cl	Cl	CN	Br	CH
Me	6-Me	Cl	$OCHF_2$	CF_3	CH	Me	6-Cl	Cl	$OCHF_2$	CF_3	CH
Et	6-Me	Cl	$OCHF_2$	CF_3	CH	Et	6-Cl	Cl	$OCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3	CH
Me	6-Me	Cl	$SCHF_2$	CF_3	CH	Me	6-Cl	Cl	$SCHF_2$	CF_3	CH
Et	6-Me	Cl	$SCHF_2$	CF_3	CH	Et	6-Cl	Cl	$SCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3	CH
Me	6-Me	Cl	OCF_3	CF_3	CH	Me	6-Cl	Cl	OCF_3	CF_3	CH
Et	6-Me	Cl	OCF_3	CF_3	CH	Et	6-Cl	Cl	OCF_3	CF_3	CH
i-Pr	6-Me	Cl	OCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	OCF_3	CF_3	CH
t-Bu	6-Me	Cl	OCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	OCF_3	CF_3	CH
Me	6-Me	Cl	SCF_3	CF_3	CH	Me	6-Cl	Cl	SCF_3	CF_3	CH
Et	6-Me	Cl	SCF_3	CF_3	CH	Et	6-Cl	Cl	SCF_3	CF_3	CH
i-Pr	6-Me	Cl	SCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	SCF_3	CF_3	CH
t-Bu	6-Me	Cl	SCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	SCF_3	CF_3	CH
Me	6-Me	Cl	C_2F_5	CF_3	CH	Me	6-Cl	Cl	C_2F_5	CF_3	CH
Et	6-Me	Cl	C_2F_5	CF_3	CH	Et	6-Cl	Cl	C_2F_5	CF_3	CH
i-Pr	6-Me	Cl	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3	CH
t-Bu	6-Me	Cl	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3	CH
Me	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Me	6-Me	Cl	*i*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*i*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Me	6-Me	Cl	CN	CF_3	CH	Me	6-Cl	Cl	CN	CF_3	CH
Et	6-Me	Cl	CN	CF_3	CH	Et	6-Cl	Cl	CN	CF_3	CH
i-Pr	6-Me	Cl	CN	CF_3	CH	*i*-Pr	6-Cl	Cl	CN	CF_3	CH
t-Bu	6-Me	Cl	CN	CF_3	CH	*t*-Bu	6-Cl	Cl	CN	CF_3	CH
Me	6-Me	H	$OCHF_2$	F	CF	Me	6-Cl	H	$OCHF_2$	F	CF
Et	6-Me	H	$OCHF_2$	F	CF	Et	6-Cl	H	$OCHF_2$	F	CF
i-Pr	6-Me	H	$OCHF_2$	F	CF	*i*-Pr	6-Cl	H	$OCHF_2$	F	CF
t-Bu	6-Me	H	$OCHF_2$	F	CF	*t*-Bu	6-Cl	H	$OCHF_2$	F	CF
Me	6-Me	H	$SCHF_2$	F	CF	Me	6-Cl	H	$SCHF_2$	F	CF
Et	6-Me	H	$SCHF_2$	F	CF	Et	6-Cl	H	$SCHF_2$	F	CF
i-Pr	6-Me	H	$SCHF_2$	F	CF	*i*-Pr	6-Cl	H	$SCHF_2$	F	CF
t-Bu	6-Me	H	$SCHF_2$	F	CF	*t*-Bu	6-Cl	H	$SCHF_2$	F	CF
Me	6-Me	H	OCF_3	F	CF	Me	6-Cl	H	OCF_3	F	CF
Et	6-Me	H	OCF_3	F	CF	Et	6-Cl	H	OCF_3	F	CF
i-Pr	6-Me	H	OCF_3	F	CF	*i*-Pr	6-Cl	H	OCF_3	F	CF
t-Bu	6-Me	H	OCF_3	F	CF	*t*-Bu	6-Cl	H	OCF_3	F	CF
Me	6-Me	H	SCF_3	F	CF	Me	6-Cl	H	SCF_3	F	CF
Et	6-Me	H	SCF_3	F	CF	Et	6-Cl	H	SCF_3	F	CF
i-Pr	6-Me	H	SCF_3	F	CF	*i*-Pr	6-Cl	H	SCF_3	F	CF
t-Bu	6-Me	H	SCF_3	F	CF	*t*-Bu	6-Cl	H	SCF_3	F	CF
Me	6-Me	H	C_2F_5	F	CF	Me	6-Cl	H	C_2F_5	F	CF
Et	6-Me	H	C_2F_5	F	CF	Et	6-Cl	H	C_2F_5	F	CF
i-Pr	6-Me	H	C_2F_5	F	CF	*i*-Pr	6-Cl	H	C_2F_5	F	CF
t-Bu	6-Me	H	C_2F_5	F	CF	*t*-Bu	6-Cl	H	C_2F_5	F	CF
Me	6-Me	H	*n*-C_3F_7	F	CF	Me	6-Cl	H	*n*-C_3F_7	F	CF
Et	6-Me	H	*n*-C_3F_7	F	CF	Et	6-Cl	H	*n*-C_3F_7	F	CF
i-Pr	6-Me	H	*n*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CF
t-Bu	6-Me	H	*n*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CF
Me	6-Me	H	*i*-C_3F_7	F	CF	Me	6-Cl	H	*i*-C_3F_7	F	CF
Et	6-Me	H	*i*-C_3F_7	F	CF	Et	6-Cl	H	*i*-C_3F_7	F	CF
i-Pr	6-Me	H	*i*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CF
t-Bu	6-Me	H	*i*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CF

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	CN	F	CF	Me	6-Cl	H	CN	F	CF
Et	6-Me	H	CN	F	CF	Et	6-Cl	H	CN	F	CF
i-Pr	6-Me	H	CN	F	CF	*i*-Pr	6-Cl	H	CN	F	CF
t-Bu	6-Me	H	CN	F	CF	*t*-Bu	6-Cl	H	CN	F	CF
Me	6-Me	H	$OCHF_2$	Cl	CCl	Me	6-Cl	H	$OCHF_2$	Cl	CCl
Et	6-Me	H	$OCHF_2$	Cl	CCl	Et	6-Cl	H	$OCHF_2$	Cl	CCl
i-Pr	6-Me	H	$OCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CCl
t-Bu	6-Me	H	$OCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CCl
Me	6-Me	H	$SCHF_2$	Cl	CCl	Me	6-Cl	H	$SCHF_2$	Cl	CCl
Et	6-Me	H	$SCHF_2$	Cl	CCl	Et	6-Cl	H	$SCHF_2$	Cl	CCl
i-Pr	6-Me	H	$SCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CCl
t-Bu	6-Me	H	$SCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CCl
Me	6-Me	H	OCF_3	Cl	CCl	Me	6-Cl	H	OCF_3	Cl	CCl
Et	6-Me	H	OCF_3	Cl	CCl	Et	6-Cl	H	OCF_3	Cl	CCl
i-Pr	6-Me	H	OCF_3	Cl	CCl	*i*-Pr	6-Cl	H	OCF_3	Cl	CCl
t-Bu	6-Me	H	OCF_3	Cl	CCl	*t*-Bu	6-Cl	H	OCF_3	Cl	CCl
Me	6-Me	H	SCF_3	Cl	CCl	Me	6-Cl	H	SCF_3	Cl	CCl
Et	6-Me	H	SCF_3	Cl	CCl	Et	6-Cl	H	SCF_3	Cl	CCl
i-Pr	6-Me	H	SCF_3	Cl	CCl	*i*-Pr	6-Cl	H	SCF_3	Cl	CCl
t-Bu	6-Me	H	SCF_3	Cl	CCl	*t*-Bu	6-Cl	H	SCF_3	Cl	CCl
Me	6-Me	H	C_2F_5	Cl	CCl	Me	6-Cl	H	C_2F_5	Cl	CCl
Et	6-Me	H	C_2F_5	Cl	CCl	Et	6-Cl	H	C_2F_5	Cl	CCl
i-Pr	6-Me	H	C_2F_5	Cl	CCl	*i*-Pr	6-Cl	H	C_2F_5	Cl	CCl
t-Bu	6-Me	H	C_2F_5	Cl	CCl	*t*-Bu	6-Cl	H	C_2F_5	Cl	CCl
Me	6-Me	H	*n*-C_3F_7	Cl	CCl	Me	6-Cl	H	*n*-C_3F_7	Cl	CCl
Et	6-Me	H	*n*-C_3F_7	Cl	CCl	Et	6-Cl	H	*n*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CCl
Me	6-Me	H	*i*-C_3F_7	Cl	CCl	Me	6-Cl	H	*i*-C_3F_7	Cl	CCl
Et	6-Me	H	*i*-C_3F_7	Cl	CCl	Et	6-Cl	H	*i*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CCl
Me	6-Me	H	CN	Cl	CCl	Me	6-Cl	H	CN	Cl	CCl
Et	6-Me	H	CN	Cl	CCl	Et	6-Cl	H	CN	Cl	CCl
i-Pr	6-Me	H	CN	Cl	CCl	*i*-Pr	6-Cl	H	CN	Cl	CCl
t-Bu	6-Me	H	CN	Cl	CCl	*t*-Bu	6-Cl	H	CN	Cl	CCl
Me	3-Me	H	$OCHF_2$	F	CH	Me	3-Cl	H	$OCHF_2$	F	CH

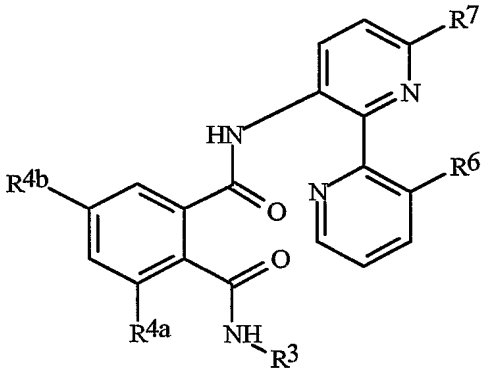
R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	3-Me	H	$OCHF_2$	F	CH	Et	3-Cl	H	$OCHF_2$	F	CH
i-Pr	3-Me	H	$OCHF_2$	F	CH	*i*-Pr	3-Cl	H	$OCHF_2$	F	CH
t-Bu	3-Me	H	$OCHF_2$	F	CH	*t*-Bu	3-Cl	H	$OCHF_2$	F	CH
Me	3-Me	H	$SCHF_2$	F	CH	Me	3-Cl	H	$SCHF_2$	F	CH
Et	3-Me	H	$SCHF_2$	F	CH	Et	3-Cl	H	$SCHF_2$	F	CH
i-Pr	3-Me	H	$SCHF_2$	F	CH	*i*-Pr	3-Cl	H	$SCHF_2$	F	CH
t-Bu	3-Me	H	$SCHF_2$	F	CH	*t*-Bu	3-Cl	H	$SCHF_2$	F	CH
Me	3-Me	H	OCF_3	F	CH	Me	3-Cl	H	OCF_3	F	CH
Et	3-Me	H	OCF_3	F	CH	Et	3-Cl	H	OCF_3	F	CH
i-Pr	3-Me	H	OCF_3	F	CH	*i*-Pr	3-Cl	H	OCF_3	F	CH
t-Bu	3-Me	H	OCF_3	F	CH	*t*-Bu	3-Cl	H	OCF_3	F	CH
Me	3-Me	H	SCF_3	F	CH	Me	3-Cl	H	SCF_3	F	CH
Et	3-Me	H	SCF_3	F	CH	Et	3-Cl	H	SCF_3	F	CH
i-Pr	3-Me	H	SCF_3	F	CH	*i*-Pr	3-Cl	H	SCF_3	F	CH
t-Bu	3-Me	H	SCF_3	F	CH	*t*-Bu	3-Cl	H	SCF_3	F	CH
Me	3-Me	H	C_2F_5	F	CH	Me	3-Cl	H	C_2F_5	F	CH
Et	3-Me	H	C_2F_5	F	CH	Et	3-Cl	H	C_2F_5	F	CH
i-Pr	3-Me	H	C_2F_5	F	CH	*i*-Pr	3-Cl	H	C_2F_5	F	CH
t-Bu	3-Me	H	C_2F_5	F	CH	*t*-Bu	3-Cl	H	C_2F_5	F	CH
Me	3-Me	H	*n*-C_3F_7	F	CH	Me	3-Cl	H	*n*-C_3F_7	F	CH
Et	3-Me	H	*n*-C_3F_7	F	CH	Et	3-Cl	H	*n*-C_3F_7	F	CH
i-Pr	3-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	F	CH
t-Bu	3-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	F	CH
Me	3-Me	H	*i*-C_3F_7	F	CH	Me	3-Cl	H	*i*-C_3F_7	F	CH
Et	3-Me	H	*i*-C_3F_7	F	CH	Et	3-Cl	H	*i*-C_3F_7	F	CH
i-Pr	3-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	F	CH
t-Bu	3-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	F	CH
Me	3-Me	H	CN	F	CH	Me	3-Cl	H	CN	F	CH
Et	3-Me	H	CN	F	CH	Et	3-Cl	H	CN	F	CH
i-Pr	3-Me	H	CN	F	CH	*i*-Pr	3-Cl	H	CN	F	CH
t-Bu	3-Me	H	CN	F	CH	*t*-Bu	3-Cl	H	CN	F	CH
Me	3-Me	H	$OCHF_2$	Cl	CH	Me	3-Cl	H	$OCHF_2$	Cl	CH
Et	3-Me	H	$OCHF_2$	Cl	CH	Et	3-Cl	H	$OCHF_2$	Cl	CH
i-Pr	3-Me	H	$OCHF_2$	Cl	CH	*i*-Pr	3-Cl	H	$OCHF_2$	Cl	CH
t-Bu	3-Me	H	$OCHF_2$	Cl	CH	*t*-Bu	3-Cl	H	$OCHF_2$	Cl	CH
Me	3-Me	H	$SCHF_2$	Cl	CH	Me	3-Cl	H	$SCHF_2$	Cl	CH
Et	3-Me	H	$SCHF_2$	Cl	CH	Et	3-Cl	H	$SCHF_2$	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	3-Me	H	$SCHF_2$	Cl	CH	*i*-Pr	3-Cl	H	$SCHF_2$	Cl	CH
t-Bu	3-Me	H	$SCHF_2$	Cl	CH	*t*-Bu	3-Cl	H	$SCHF_2$	Cl	CH
Me	3-Me	H	OCF_3	Cl	CH	Me	3-Cl	H	OCF_3	Cl	CH
Et	3-Me	H	OCF_3	Cl	CH	Et	3-Cl	H	OCF_3	Cl	CH
i-Pr	3-Me	H	OCF_3	Cl	CH	*i*-Pr	3-Cl	H	OCF_3	Cl	CH
t-Bu	3-Me	H	OCF_3	Cl	CH	*t*-Bu	3-Cl	H	OCF_3	Cl	CH
Me	3-Me	H	SCF_3	Cl	CH	Me	3-Cl	H	SCF_3	Cl	CH
Et	3-Me	H	SCF_3	Cl	CH	Et	3-Cl	H	SCF_3	Cl	CH
i-Pr	3-Me	H	SCF_3	Cl	CH	*i*-Pr	3-Cl	H	SCF_3	Cl	CH
t-Bu	3-Me	H	SCF_3	Cl	CH	*t*-Bu	3-Cl	H	SCF_3	Cl	CH
Me	3-Me	H	C_2F_5	Cl	CH	Me	3-Cl	H	C_2F_5	Cl	CH
Et	3-Me	H	C_2F_5	Cl	CH	Et	3-Cl	H	C_2F_5	Cl	CH
i-Pr	3-Me	H	C_2F_5	Cl	CH	*i*-Pr	3-Cl	H	C_2F_5	Cl	CH
t-Bu	3-Me	H	C_2F_5	Cl	CH	*t*-Bu	3-Cl	H	C_2F_5	Cl	CH
Me	3-Me	H	*n*-C_3F_7	Cl	CH	Me	3-Cl	H	*n*-C_3F_7	Cl	CH
Et	3-Me	H	*n*-C_3F_7	Cl	CH	Et	3-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	3-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	3-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	Cl	CH
Me	3-Me	H	*i*-C_3F_7	Cl	CH	Me	3-Cl	H	*i*-C_3F_7	Cl	CH
Et	3-Me	H	*i*-C_3F_7	Cl	CH	Et	3-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	3-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	3-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	Cl	CH
Me	3-Me	H	CN	Cl	CH	Me	3-Cl	H	CN	Cl	CH
Et	3-Me	H	CN	Cl	CH	Et	3-Cl	H	CN	Cl	CH
i-Pr	3-Me	H	CN	Cl	CH	*i*-Pr	3-Cl	H	CN	Cl	CH
t-Bu	3-Me	H	CN	Cl	CH	*t*-Bu	3-Cl	H	CN	Cl	CH
Me	3-Me	H	$OCHF_2$	Br	CH	Me	3-Cl	H	$OCHF_2$	Br	CH
Et	3-Me	H	$OCHF_2$	Br	CH	Et	3-Cl	H	$OCHF_2$	Br	CH
i-Pr	3-Me	H	$OCHF_2$	Br	CH	*i*-Pr	3-Cl	H	$OCHF_2$	Br	CH
t-Bu	3-Me	H	$OCHF_2$	Br	CH	*t*-Bu	3-Cl	H	$OCHF_2$	Br	CH
Me	3-Me	H	$SCHF_2$	Br	CH	Me	3-Cl	H	$SCHF_2$	Br	CH
Et	3-Me	H	$SCHF_2$	Br	CH	Et	3-Cl	H	$SCHF_2$	Br	CH
i-Pr	3-Me	H	$SCHF_2$	Br	CH	*i*-Pr	3-Cl	H	$SCHF_2$	Br	CH
t-Bu	3-Me	H	$SCHF_2$	Br	CH	*t*-Bu	3-Cl	H	$SCHF_2$	Br	CH
Me	3-Me	H	OCF_3	Br	CH	Me	3-Cl	H	OCF_3	Br	CH
Et	3-Me	H	OCF_3	Br	CH	Et	3-Cl	H	OCF_3	Br	CH
i-Pr	3-Me	H	OCF_3	Br	CH	*i*-Pr	3-Cl	H	OCF_3	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	3-Me	H	OCF_3	Br	CH	*t*-Bu	3-Cl	H	OCF_3	Br	CH
Me	3-Me	H	SCF_3	Br	CH	Me	3-Cl	H	SCF_3	Br	CH
Et	3-Me	H	SCF_3	Br	CH	Et	3-Cl	H	SCF_3	Br	CH
i-Pr	3-Me	H	SCF_3	Br	CH	*i*-Pr	3-Cl	H	SCF_3	Br	CH
t-Bu	3-Me	H	SCF_3	Br	CH	*t*-Bu	3-Cl	H	SCF_3	Br	CH
Me	3-Me	H	C_2F_5	Br	CH	Me	3-Cl	H	C_2F_5	Br	CH
Et	3-Me	H	C_2F_5	Br	CH	Et	3-Cl	H	C_2F_5	Br	CH
i-Pr	3-Me	H	C_2F_5	Br	CH	*i*-Pr	3-Cl	H	C_2F_5	Br	CH
t-Bu	3-Me	H	C_2F_5	Br	CH	*t*-Bu	3-Cl	H	C_2F_5	Br	CH
Me	3-Me	H	*n*-C_3F_7	Br	CH	Me	3-Cl	H	*n*-C_3F_7	Br	CH
Et	3-Me	H	*n*-C_3F_7	Br	CH	Et	3-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	3-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	3-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	Br	CH
Me	3-Me	H	*i*-C_3F_7	Br	CH	Me	3-Cl	H	*i*-C_3F_7	Br	CH
Et	3-Me	H	*i*-C_3F_7	Br	CH	Et	3-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	3-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	3-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	Br	CH
Me	3-Me	H	CN	Br	CH	Me	3-Cl	H	CN	Br	CH
Et	3-Me	H	CN	Br	CH	Et	3-Cl	H	CN	Br	CH
i-Pr	3-Me	H	CN	Br	CH	*i*-Pr	3-Cl	H	CN	Br	CH
t-Bu	3-Me	H	CN	Br	CH	*t*-Bu	3-Cl	H	CN	Br	CH
Me	3-Me	H	$OCHF_2$	CF_3	CH	Me	3-Cl	H	$OCHF_2$	CF_3	CH
Et	3-Me	H	$OCHF_2$	CF_3	CH	Et	3-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	3-Me	H	$OCHF_2$	CF_3	CH	*i*-Pr	3-Cl	H	$OCHF_2$	CF_3	CH
t-Bu	3-Me	H	$OCHF_2$	CF_3	CH	*t*-Bu	3-Cl	H	$OCHF_2$	CF_3	CH
Me	3-Me	H	$SCHF_2$	CF_3	CH	Me	3-Cl	H	$SCHF_2$	CF_3	CH
Et	3-Me	H	$SCHF_2$	CF_3	CH	Et	3-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	3-Me	H	$SCHF_2$	CF_3	CH	*i*-Pr	3-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	3-Me	H	$SCHF_2$	CF_3	CH	*t*-Bu	3-Cl	H	$SCHF_2$	CF_3	CH
Me	3-Me	H	OCF_3	CF_3	CH	Me	3-Cl	H	OCF_3	CF_3	CH
Et	3-Me	H	OCF_3	CF_3	CH	Et	3-Cl	H	OCF_3	CF_3	CH
i-Pr	3-Me	H	OCF_3	CF_3	CH	*i*-Pr	3-Cl	H	OCF_3	CF_3	CH
t-Bu	3-Me	H	OCF_3	CF_3	CH	*t*-Bu	3-Cl	H	OCF_3	CF_3	CH
Me	3-Me	H	SCF_3	CF_3	CH	Me	3-Cl	H	SCF_3	CF_3	CH
Et	3-Me	H	SCF_3	CF_3	CH	Et	3-Cl	H	SCF_3	CF_3	CH
i-Pr	3-Me	H	SCF_3	CF_3	CH	*i*-Pr	3-Cl	H	SCF_3	CF_3	CH
t-Bu	3-Me	H	SCF_3	CF_3	CH	*t*-Bu	3-Cl	H	SCF_3	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	3-Me	H	C_2F_5	CF_3	CH	Me	3-Cl	H	C_2F_5	CF_3	CH
Et	3-Me	H	C_2F_5	CF_3	CH	Et	3-Cl	H	C_2F_5	CF_3	CH
i-Pr	3-Me	H	C_2F_5	CF_3	CH	*i*-Pr	3-Cl	H	C_2F_5	CF_3	CH
t-Bu	3-Me	H	C_2F_5	CF_3	CH	*t*-Bu	3-Cl	H	C_2F_5	CF_3	CH
Me	3-Me	H	*n*-C_3F_7	CF_3	CH	Me	3-Cl	H	*n*-C_3F_7	CF_3	CH
Et	3-Me	H	*n*-C_3F_7	CF_3	CH	Et	3-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	3-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	3-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	CF_3	CH
Me	3-Me	H	*i*-C_3F_7	CF_3	CH	Me	3-Cl	H	*i*-C_3F_7	CF_3	CH
Et	3-Me	H	*i*-C_3F_7	CF_3	CH	Et	3-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	3-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	3-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	CF_3	CH
Me	3-Me	H	CN	CF_3	CH	Me	3-Cl	H	CN	CF_3	CH
Et	3-Me	H	CN	CF_3	CH	Et	3-Cl	H	CN	CF_3	CH
i-Pr	3-Me	H	CN	CF_3	CH	*i*-Pr	3-Cl	H	CN	CF_3	CH
t-Bu	3-Me	H	CN	CF_3	CH	*t*-Bu	3-Cl	H	CN	CF_3	CH

Table 4



R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	F	CF_3	Me	Cl	Cl	F	CF_3	Me	Cl	Br	F	CF_3	Me	Cl
CH_3	F	CF_3	Et	Cl	Cl	F	CF_3	Et	Cl	Br	F	CF_3	Et	Cl
CH_3	F	CF_3	*i*-Pr	Cl	Cl	F	CF_3	*i*-Pr	Cl	Br	F	CF_3	*i*-Pr	Cl
CH_3	F	CF_3	*t*-Bu	Cl	Cl	F	CF_3	*t*-Bu	Cl	Br	F	CF_3	*t*-Bu	Cl
CH_3	F	CF_3	Me	Br	Cl	F	CF_3	Me	Br	Br	F	CF_3	Me	Br
CH_3	F	CF_3	Et	Br	Cl	F	CF_3	Et	Br	Br	F	CF_3	Et	Br
CH_3	F	CF_3	*i*-Pr	Br	Cl	F	CF_3	*i*-Pr	Br	Br	F	CF_3	*i*-Pr	Br
CH_3	F	CF_3	*t*-Bu	Br	Cl	F	CF_3	*t*-Bu	Br	Br	F	CF_3	*t*-Bu	Br

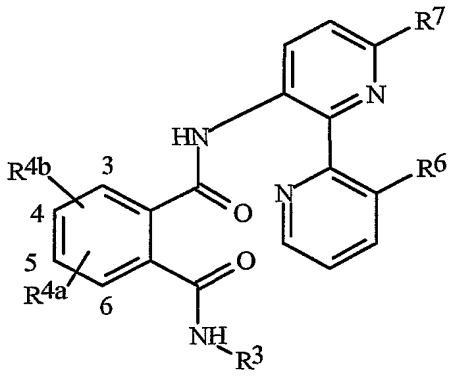
R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	F	Cl	Me	Cl	Cl	F	Cl	Me	Cl	Br	F	Cl	Me	Cl
CH_3	F	Cl	Et	Cl	Cl	F	Cl	Et	Cl	Br	F	Cl	Et	Cl
CH_3	F	Cl	*i*-Pr	Cl	Cl	F	Cl	*i*-Pr	Cl	Br	F	Cl	*i*-Pr	Cl
CH_3	F	Cl	*t*-Bu	Cl	Cl	F	Cl	*t*-Bu	Cl	Br	F	Cl	*t*-Bu	Cl
CH_3	F	Cl	Me	Br	Cl	F	Cl	Me	Br	Br	F	Cl	Me	Br
CH_3	F	Cl	Et	Br	Cl	F	Cl	Et	Br	Br	F	Cl	Et	Br
CH_3	F	Cl	*i*-Pr	Br	Cl	F	Cl	*i*-Pr	Br	Br	F	Cl	*i*-Pr	Br
CH_3	F	Cl	*t*-Bu	Br	Cl	F	Cl	*t*-Bu	Br	Br	F	Cl	*t*-Bu	Br
CH_3	F	Br	Me	Cl	Cl	F	Br	Me	Cl	Br	F	Br	Me	Cl
CH_3	F	Br	Et	Cl	Cl	F	Br	Et	Cl	Br	F	Br	Et	Cl
CH_3	F	Br	*i*-Pr	Cl	Cl	F	Br	*i*-Pr	Cl	Br	F	Br	*i*-Pr	Cl
CH_3	F	Br	*t*-Bu	Cl	Cl	F	Br	*t*-Bu	Cl	Br	F	Br	*t*-Bu	Cl
CH_3	F	Br	Me	Br	Cl	F	Br	Me	Br	Br	F	Br	Me	Br
CH_3	F	Br	Et	Br	Cl	F	Br	Et	Br	Br	F	Br	Et	Br
CH_3	F	Br	*i*-Pr	Br	Cl	F	Br	*i*-Pr	Br	Br	F	Br	*i*-Pr	Br
CH_3	F	Br	*t*-Bu	Br	Cl	F	Br	*t*-Bu	Br	Br	F	Br	*t*-Bu	Br
CH_3	Cl	CF_3	Me	Cl	Cl	Cl	CF_3	Me	Cl	Br	Cl	CF_3	Me	Cl
CH_3	Cl	CF_3	Et	Cl	Cl	Cl	CF_3	Et	Cl	Br	Cl	CF_3	Et	Cl
CH_3	Cl	CF_3	*i*-Pr	Cl	Cl	Cl	CF_3	*i*-Pr	Cl	Br	Cl	CF_3	*i*-Pr	Cl
CH_3	Cl	CF_3	*t*-Bu	Cl	Cl	Cl	CF_3	*t*-Bu	Cl	Br	Cl	CF_3	*t*-Bu	Cl
CH_3	Cl	CF_3	Me	Br	Cl	Cl	CF_3	Me	Br	Br	Cl	CF_3	Me	Br
CH_3	Cl	CF_3	Et	Br	Cl	Cl	CF_3	Et	Br	Br	Cl	CF_3	Et	Br
CH_3	Cl	CF_3	*i*-Pr	Br	Cl	Cl	CF_3	*i*-Pr	Br	Br	Cl	CF_3	*i*-Pr	Br
CH_3	Cl	CF_3	*t*-Bu	Br	Cl	Cl	CF_3	*t*-Bu	Br	Br	Cl	CF_3	*t*-Bu	Br
CH_3	Cl	Cl	Me	Cl	Cl	Cl	Cl	Me	Cl	Br	Cl	Cl	Me	Cl
CH_3	Cl	Cl	Et	Cl	Cl	Cl	Cl	Et	Cl	Br	Cl	Cl	Et	Cl
CH_3	Cl	Cl	*i*-Pr	Cl	Cl	Cl	Cl	*i*-Pr	Cl	Br	Cl	Cl	*i*-Pr	Cl
CH_3	Cl	Cl	*t*-Bu	Cl	Cl	Cl	Cl	*t*-Bu	Cl	Br	Cl	Cl	*t*-Bu	Cl
CH_3	Cl	Cl	Me	Br	Cl	Cl	Cl	Me	Br	Br	Cl	Cl	Me	Br
CH_3	Cl	Cl	Et	Br	Cl	Cl	Cl	Et	Br	Br	Cl	Cl	Et	Br
CH_3	Cl	Cl	*i*-Pr	Br	Cl	Cl	Cl	*i*-Pr	Br	Br	Cl	Cl	*i*-Pr	Br
CH_3	Cl	Cl	*t*-Bu	Br	Cl	Cl	Cl	*t*-Bu	Br	Br	Cl	Cl	*t*-Bu	Br
CH_3	Cl	Br	Me	Cl	Cl	Cl	Br	Me	Cl	Br	Cl	Br	Me	Cl
CH_3	Cl	Br	Et	Cl	Cl	Cl	Br	Et	Cl	Br	Cl	Br	Et	Cl
CH_3	Cl	Br	*i*-Pr	Cl	Cl	Cl	Br	*i*-Pr	Cl	Br	Cl	Br	*i*-Pr	Cl
CH_3	Cl	Br	*t*-Bu	Cl	Cl	Cl	Br	*t*-Bu	Cl	Br	Cl	Br	*t*-Bu	Cl
CH_3	Cl	Br	Me	Br	Cl	Cl	Br	Me	Br	Br	Cl	Br	Me	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	Cl	Br	Et	Br	Cl	Cl	Br	Et	Br	Br	Cl	Br	Et	Br
CH_3	Cl	Br	*i*-Pr	Br	Cl	Cl	Br	*i*-Pr	Br	Br	Cl	Br	*i*-Pr	Br
CH_3	Cl	Br	*t*-Bu	Br	Cl	Cl	Br	*t*-Bu	Br	Br	Cl	Br	*t*-Bu	Br
CH_3	Br	CF_3	Me	Cl	Cl	Br	CF_3	Me	Cl	Br	Br	CF_3	Me	Cl
CH_3	Br	CF_3	Et	Cl	Cl	Br	CF_3	Et	Cl	Br	Br	CF_3	Et	Cl
CH_3	Br	CF_3	*i*-Pr	Cl	Cl	Br	CF_3	*i*-Pr	Cl	Br	Br	CF_3	*i*-Pr	Cl
CH_3	Br	CF_3	*t*-Bu	Cl	Cl	Br	CF_3	*t*-Bu	Cl	Br	Br	CF_3	*t*-Bu	Cl
CH_3	Br	CF_3	Me	Br	Cl	Br	CF_3	Me	Br	Br	Br	CF_3	Me	Br
CH_3	Br	CF_3	Et	Br	Cl	Br	CF_3	Et	Br	Br	Br	CF_3	Et	Br
CH_3	Br	CF_3	*i*-Pr	Br	Cl	Br	CF_3	*i*-Pr	Br	Br	Br	CF_3	*i*-Pr	Br
CH_3	Br	CF_3	*t*-Bu	Br	Cl	Br	CF_3	*t*-Bu	Br	Br	Br	CF_3	*t*-Bu	Br
CH_3	Br	Cl	Me	Cl	Cl	Br	Cl	Me	Cl	Br	Br	Cl	Me	Cl
CH_3	Br	Cl	Et	Cl	Cl	Br	Cl	Et	Cl	Br	Br	Cl	Et	Cl
CH_3	Br	Cl	*i*-Pr	Cl	Cl	Br	Cl	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Cl
CH_3	Br	Cl	*t*-Bu	Cl	Cl	Br	Cl	*t*-Bu	Cl	Br	Br	Cl	*t*-Bu	Cl
CH_3	Br	Cl	Me	Br	Cl	H	CF_3	Me	Cl	Br	Br	Cl	Me	Br
CH_3	Br	Cl	Et	Br	Cl	H	CF_3	Et	Cl	Br	Br	Cl	Et	Br
CH_3	Br	Cl	*i*-Pr	Br	Cl	H	CF_3	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Br
CH_3	Br	Cl	*t*-Bu	Br	Cl	H	CF_3	*t*-Bu	Cl	Br	Br	Cl	*t*-Bu	Br
CH_3	Br	Br	Me	Cl	Cl	H	CF_3	Me	Br	Br	Br	Br	Me	Cl
CH_3	Br	Br	Et	Cl	Cl	H	CF_3	Et	Br	Br	Br	Br	Et	Cl
CH_3	Br	Br	*i*-Pr	Cl	Cl	H	CF_3	*i*-Pr	Br	Br	Br	Br	*i*-Pr	Cl
CH_3	Br	Br	*t*-Bu	Cl	Cl	H	CF_3	*t*-Bu	Br	Br	Br	Br	*t*-Bu	Cl
CH_3	Br	Br	Me	Br	Cl	H	Cl	Me	Cl	Br	Br	Br	Me	Br
CH_3	Br	Br	Et	Br	Cl	H	Cl	Et	Cl	Br	Br	Br	Et	Br
CH_3	Br	Br	*i*-Pr	Br	Cl	H	Cl	*i*-Pr	Cl	Br	Br	Br	*i*-Pr	Br
CH_3	Br	Br	*t*-Bu	Br	Cl	H	Cl	*t*-Bu	Cl	Br	Br	Br	*t*-Bu	Br
CH_3	I	CF_3	Me	Cl	Cl	H	Cl	Me	Br	Br	I	CF_3	Me	Cl
CH_3	I	CF_3	Et	Cl	Cl	H	Cl	Et	Br	Br	I	CF_3	Et	Cl
CH_3	I	CF_3	*i*-Pr	Cl	Cl	H	Cl	*i*-Pr	Br	Br	I	CF_3	*i*-Pr	Cl
CH_3	I	CF_3	*t*-Bu	Cl	Cl	H	Cl	*t*-Bu	Br	Br	I	CF_3	*t*-Bu	Cl
CH_3	I	CF_3	Me	Br	Cl	H	Br	Me	Cl	Br	I	CF_3	Me	Br
CH_3	I	CF_3	Et	Br	Cl	H	Br	Et	Cl	Br	I	CF_3	Et	Br
CH_3	I	CF_3	*i*-Pr	Br	Cl	H	Br	*i*-Pr	Cl	Br	I	CF_3	*i*-Pr	Br
CH_3	I	CF_3	*t*-Bu	Br	Cl	H	Br	*t*-Bu	Cl	Br	I	CF_3	*t*-Bu	Br
CH_3	I	Cl	Me	Cl	Cl	H	Br	Me	Br	Br	I	Cl	Me	Cl
CH_3	I	Cl	Et	Cl	Cl	H	Br	Et	Br	Br	I	Cl	Et	Cl

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	I	Cl	*i*-Pr	Cl	Cl	H	Br	*i*-Pr	Br	Br	I	Cl	*i*-Pr	Cl
CH_3	I	Cl	*t*-Bu	Cl	Cl	H	Br	*t*-Bu	Br	Br	I	Cl	*t*-Bu	Cl
CH_3	I	Cl	Me	Br	Cl	Br	Cl	Me	Br	Br	I	Cl	Me	Br
CH_3	I	Cl	Et	Br	Cl	Br	Cl	Et	Br	Br	I	Cl	Et	Br
CH_3	I	Cl	*i*-Pr	Br	Cl	Br	Cl	*i*-Pr	Br	Br	I	Cl	*i*-Pr	Br
CH_3	I	Cl	*t*-Bu	Br	Cl	Br	Cl	*t*-Bu	Br	Br	I	Cl	*t*-Bu	Br
CH_3	I	Br	Me	Cl	Cl	Br	Br	Me	Cl	Br	I	Br	Me	Cl
CH_3	I	Br	Et	Cl	Cl	Br	Br	Et	Cl	Br	I	Br	Et	Cl
CH_3	I	Br	*i*-Pr	Cl	Cl	Br	Br	*i*-Pr	Cl	Br	I	Br	*i*-Pr	Cl
CH_3	I	Br	*t*-Bu	Cl	Cl	Br	Br	*t*-Bu	Cl	Br	I	Br	*t*-Bu	Cl
CH_3	I	Br	Me	Br	Cl	Br	Br	Me	Br	Br	I	Br	Me	Br
CH_3	I	Br	Et	Br	Cl	Br	Br	Et	Br	Br	I	Br	Et	Br
CH_3	I	Br	*i*-Pr	Br	Cl	Br	Br	*i*-Pr	Br	Br	I	Br	*i*-Pr	Br
CH_3	I	Br	*t*-Bu	Br	Cl	Br	Br	*t*-Bu	Br	Br	I	Br	*t*-Bu	Br
CH_3	CF_3	CF_3	Me	Cl	Cl	I	CF_3	Me	Cl	Br	CF_3	CF_3	Me	Cl
CH_3	CF_3	CF_3	Et	Cl	Cl	I	CF_3	Et	Cl	Br	CF_3	CF_3	Et	Cl
CH_3	CF_3	CF_3	*i*-Pr	Cl	Cl	I	CF_3	*i*-Pr	Cl	Br	CF_3	CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_3	*t*-Bu	Cl	Cl	I	CF_3	*t*-Bu	Cl	Br	CF_3	CF_3	*t*-Bu	Cl
CH_3	CF_3	CF_3	Me	Br	Cl	I	CF_3	Me	Br	Br	CF_3	CF_3	Me	Br
CH_3	CF_3	CF_3	Et	Br	Cl	I	CF_3	Et	Br	Br	CF_3	CF_3	Et	Br
CH_3	CF_3	CF_3	*i*-Pr	Br	Cl	I	CF_3	*i*-Pr	Br	Br	CF_3	CF_3	*i*-Pr	Br
CH_3	CF_3	CF_3	*t*-Bu	Br	Cl	I	CF_3	*t*-Bu	Br	Br	CF_3	CF_3	*t*-Bu	Br
CH_3	CF_3	Cl	Me	Cl	Cl	I	Cl	Me	Cl	Br	CF_3	Cl	Me	Cl
CH_3	CF_3	Cl	Et	Cl	Cl	I	Cl	Et	Cl	Br	CF_3	Cl	Et	Cl
CH_3	CF_3	Cl	*i*-Pr	Cl	Cl	I	Cl	*i*-Pr	Cl	Br	CF_3	Cl	*i*-Pr	Cl
CH_3	CF_3	Cl	*t*-Bu	Cl	Cl	I	Cl	*t*-Bu	Cl	Br	CF_3	Cl	*t*-Bu	Cl
CH_3	CF_3	Cl	Me	Br	Cl	I	Cl	Me	Br	Br	CF_3	Cl	Me	Br
CH_3	CF_3	Cl	Et	Br	Cl	I	Cl	Et	Br	Br	CF_3	Cl	Et	Br
CH_3	CF_3	Cl	*i*-Pr	Br	Cl	I	Cl	*i*-Pr	Br	Br	CF_3	Cl	*i*-Pr	Br
CH_3	CF_3	Cl	*t*-Bu	Br	Cl	I	Cl	*t*-Bu	Br	Br	CF_3	Cl	*t*-Bu	Br
CH_3	CF_3	Br	Me	Cl	Cl	I	Br	Me	Cl	Br	CF_3	Br	Me	Cl
CH_3	CF_3	Br	Et	Cl	Cl	I	Br	Et	Cl	Br	CF_3	Br	Et	Cl
CH_3	CF_3	Br	*i*-Pr	Cl	Cl	I	Br	*i*-Pr	Cl	Br	CF_3	Br	*i*-Pr	Cl
CH_3	CF_3	Br	*t*-Bu	Cl	Cl	I	Br	*t*-Bu	Cl	Br	CF_3	Br	*t*-Bu	Cl
CH_3	CF_3	Br	Me	Br	Cl	I	Br	Me	Br	Br	CF_3	Br	Me	Br
CH_3	CF_3	Br	Et	Br	Cl	I	Br	Et	Br	Br	CF_3	Br	Et	Br
CH_3	CF_3	Br	*i*-Pr	Br	Cl	I	Br	*i*-Pr	Br	Br	CF_3	Br	*i*-Pr	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	CF_3	Br	*t*-Bu	Br	Cl	I	Br	*t*-Bu	Br	Br	CF_3	Br	*t*-Bu	Br
CH_3	Cl	Cl	*n*-Pr	Cl	Cl	CF_3	CF_3	Me	Cl	I	Cl	CF_3	Me	Cl
CH_3	Cl	Cl	*n*-Bu	Cl	Cl	CF_3	CF_3	Et	Cl	I	Cl	CF_3	Et	Cl
CH_3	Cl	Cl	*s*-Bu	Cl	Cl	CF_3	CF_3	*i*-Pr	Cl	I	Cl	CF_3	*i*-Pr	Cl
CH_3	Cl	Cl	*i*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Cl	I	Cl	CF_3	*t*-Bu	Cl
CH_3	H	CF_3	Me	Cl	Cl	CF_3	CF_3	Me	Br	I	Cl	CF_3	Me	Br
CH_3	H	CF_3	Et	Cl	Cl	CF_3	CF_3	Et	Br	I	Cl	CF_3	Et	Br
CH_3	H	CF_3	*i*-Pr	Cl	Cl	CF_3	CF_3	*i*-Pr	Br	I	Cl	CF_3	*i*-Pr	Br
CH_3	H	CF_3	*t*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Br	I	Cl	CF_3	*t*-Bu	Br
CH_3	H	CF_3	Me	Br	Cl	CF_3	Cl	Me	Cl	I	Cl	Cl	Me	Cl
CH_3	H	CF_3	Et	Br	Cl	CF_3	Cl	Et	Cl	I	Cl	Cl	Et	Cl
CH_3	H	CF_3	*i*-Pr	Br	Cl	CF_3	Cl	*i*-Pr	Cl	I	Cl	Cl	*i*-Pr	Cl
CH_3	H	CF_3	*t*-Bu	Br	Cl	CF_3	Cl	*t*-Bu	Cl	I	Cl	Cl	*t*-Bu	Cl
CH_3	H	Cl	Me	Cl	Cl	CF_3	Cl	Me	Br	I	Cl	Cl	Me	Br
CH_3	H	Cl	Et	Cl	Cl	CF_3	Cl	Et	Br	I	Cl	Cl	Et	Br
CH_3	H	Cl	*i*-Pr	Cl	Cl	CF_3	Cl	*i*-Pr	Br	I	Cl	Cl	*i*-Pr	Br
CH_3	H	Cl	*t*-Bu	Cl	Cl	CF_3	Cl	*t*-Bu	Br	I	Cl	Cl	*t*-Bu	Br
CH_3	H	Cl	Me	Br	Cl	CF_3	Br	Me	Cl	I	Cl	Br	Me	Cl
CH_3	H	Cl	Et	Br	Cl	CF_3	Br	Et	Cl	I	Cl	Br	Et	Cl
CH_3	H	Cl	*i*-Pr	Br	Cl	CF_3	Br	*i*-Pr	Cl	I	Cl	Br	*i*-Pr	Cl
CH_3	H	Cl	*t*-Bu	Br	Cl	CF_3	Br	*t*-Bu	Cl	I	Cl	Br	*t*-Bu	Cl
CH_3	H	Br	Me	Cl	Cl	CF_3	Br	Me	Br	I	Cl	Br	Me	Br
CH_3	H	Br	Et	Cl	Cl	CF_3	Br	Et	Br	I	Cl	Br	Et	Br
CH_3	H	Br	*i*-Pr	Cl	Cl	CF_3	Br	*i*-Pr	Br	I	Cl	Br	*i*-Pr	Br
CH_3	H	Br	*t*-Bu	Cl	Cl	CF_3	Br	*t*-Bu	Br	I	Cl	Br	*t*-Bu	Br
CH_3	H	Br	Me	Br	Cl	Cl	Cl	*n*-Pr	Cl	I	H	CF_3	Me	Cl
CH_3	H	Br	Et	Br	Cl	Cl	Cl	*n*-Bu	Cl	I	H	CF_3	Et	Cl
CH_3	H	Br	*i*-Pr	Br	Cl	Cl	Cl	*s*-Bu	Cl	I	H	CF_3	*i*-Pr	Cl
CH_3	H	Br	*t*-Bu	Br	Cl	Cl	Cl	*i*-Bu	Cl	I	H	CF_3	*t*-Bu	Cl

Table 5



R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
Me	3-Me	H	CF_3	F	Me	3-Cl	H	CF_3	F
Et	3-Me	5-Me	OCF_3	F	Et	3-Cl	5-Me	OCF_3	F
i-Pr	3-Me	H	OCF_3	F	*i*-Pr	3-Cl	H	OCF_3	F
t-Bu	3-Me	5-Cl	Br	F	*t*-Bu	3-Cl	5-Cl	Br	F
Me	3-Me	H	Br	F	Me	3-Cl	H	Br	F
Et	3-Me	H	Cl	F	Et	3-Cl	H	Cl	F
i-Pr	3-Me	5-Br	Cl	F	*i*-Pr	3-Cl	5-Br	Cl	F
t-Bu	3-Me	H	I	F	*t*-Bu	3-Cl	H	I	F
propargyl	3-Me	H	CF_3	F	propargyl	3-Cl	H	CF_3	F
c-propyl	3-Me	H	OCF_3	F	*c*-propyl	3-Cl	H	OCF_3	F
i-Pr	3-Me	5-Cl	CF_3	F	*i*-Pr	3-Cl	5-Cl	CF_3	F
t-Bu	3-Me	H	SCF_3	F	t-Bu	3-Cl	H	SCF_3	F
Me	3-Me	5-Cl	$SCHF_2$	F	Me	3-Cl	5-Cl	$SCHF_2$	F
Et	3-Me	H	$OCHF_2$	F	Et	3-Cl	H	$OCHF_2$	F
i-Pr	3-Me	H	CF_3	F	*i*-Pr	3-Cl	H	CF_3	F
t-Bu	3-Me	H	C_2F_5	F	*t*-Bu	3-Cl	H	C_2F_5	F
propargyl	3-Me	H	C_2F_5	F	propargyl	3-Cl	H	C_2F_5	F
c-propyl	3-Me	H	CF_3	F	*c*-propyl	3-Cl	H	CF_3	F
i-Pr	3-Me	H	Me	F	*i*-Pr	3-Cl	H	Me	F
t-Bu	3-Me	5-Br	CN	F	*t*-Bu	3-Cl	5-Br	CN	F
Me	3-Me	H	CF_3	Cl	Me	3-Cl	H	CF_3	Cl
Et	3-Me	5-Me	OCF_3	Cl	Et	3-Cl	5-Me	OCF_3	Cl
i-Pr	3-Me	H	OCF_3	Cl	*i*-Pr	3-Cl	H	OCF_3	Cl
t-Bu	3-Me	5-Cl	Br	Cl	*t*-Bu	3-Cl	5-Cl	Br	Cl
Me	3-Me	H	Br	Cl	Me	3-Cl	H	Br	Cl
Et	3-Me	H	Cl	Cl	Et	3-Cl	H	Cl	Cl

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
i-Pr	3-Me	5-Br	Cl	Cl	*i*-Pr	3-Cl	5-Br	Cl	Cl
t-Bu	3-Me	H	I	Cl	*t*-Bu	3-Cl	H	I	Cl
propargyl	3-Me	H	CF_3	Cl	propargyl	3-Cl	H	CF_3	Cl
c-propyl	3-Me	H	OCF_3	Cl	*c*-propyl	3-Cl	H	OCF_3	Cl
i-Pr	3-Me	5-Cl	CF_3	Cl	*i*-Pr	3-Cl	5-Cl	CF_3	Cl
t-Bu	3-Me	H	SCF_3	Cl	t-Bu	3-Cl	H	SCF_3	Cl
Me	3-Me	5-Cl	$SCHF_2$	Cl	Me	3-Cl	5-Cl	$SCHF_2$	Cl
Et	3-Me	H	$OCHF_2$	Cl	Et	3-Cl	H	$OCHF_2$	Cl
i-Pr	3-Me	H	CF_3	Cl	*i*-Pr	3-Cl	H	CF_3	Cl
t-Bu	3-Me	H	C_2F_5	Cl	*t*-Bu	3-Cl	H	C_2F_5	Cl
propargyl	3-Me	H	C_2F_5	Cl	propargyl	3-Cl	H	C_2F_5	Cl
c-propyl	3-Me	H	CF_3	Cl	*c*-propyl	3-Cl	H	CF_3	Cl
i-Pr	3-Me	H	Me	Cl	*i*-Pr	3-Cl	H	Me	Cl
t-Bu	3-Me	5-Br	CN	Cl	*t*-Bu	3-Cl	5-Br	CN	Cl
Me	3-Me	H	CF_3	CF_3	Me	3-Cl	H	CF_3	CF_3
Et	3-Me	5-Me	OCF_3	CF_3	Et	3-Cl	5-Me	OCF_3	CF_3
i-Pr	3-Me	H	OCF_3	CF_3	*i*-Pr	3-Cl	H	OCF_3	CF_3
t-Bu	3-Me	5-Cl	Br	CF_3	*t*-Bu	3-Cl	5-Cl	Br	CF_3
Me	3-Me	H	Br	CF_3	Me	3-Cl	H	Br	CF_3
Et	3-Me	H	Cl	CF_3	Et	3-Cl	H	Cl	CF_3
i-Pr	3-Me	5-Br	Cl	CF_3	*i*-Pr	3-Cl	5-Br	Cl	CF_3
t-Bu	3-Me	H	I	CF_3	*t*-Bu	3-Cl	H	I	CF_3
propargyl	3-Me	H	CF_3	CF_3	propargyl	3-Cl	H	CF_3	CF_3
c-propyl	3-Me	H	OCF_3	CF_3	*c*-propyl	3-Cl	H	OCF_3	CF_3
i-Pr	3-Me	5-Cl	CF_3	CF_3	*i*-Pr	3-Cl	5-Cl	CF_3	CF_3
t-Bu	3-Me	H	SCF_3	CF_3	t-Bu	3-Cl	H	SCF_3	CF_3
Me	3-Me	5-Cl	$SCHF_2$	CF_3	Me	3-Cl	5-Cl	$SCHF_2$	CF_3
Et	3-Me	H	$OCHF_2$	CF_3	Et	3-Cl	H	$OCHF_2$	CF_3
i-Pr	3-Me	H	CF_3	CF_3	*i*-Pr	3-Cl	H	CF_3	CF_3
t-Bu	3-Me	H	C_2F_5	CF_3	*t*-Bu	3-Cl	H	C_2F_5	CF_3
propargyl	3-Me	H	C_2F_5	CF_3	propargyl	3-Cl	H	C_2F_5	CF_3
c-propyl	3-Me	H	CF_3	CF_3	*c*-propyl	3-Cl	H	CF_3	CF_3
i-Pr	3-Me	H	Me	CF_3	*i*-Pr	3-Cl	H	Me	CF_3
t-Bu	3-Me	5-Br	CN	CF_3	*t*-Bu	3-Cl	5-Br	CN	CF_3
Me	3-Me	H	CF_3	Br	Me	3-Cl	H	CF_3	Br
Et	3-Me	5-Me	OCF_3	Br	Et	3-Cl	5-Me	OCF_3	Br
i-Pr	3-Me	H	OCF_3	Br	*i*-Pr	3-Cl	H	OCF_3	Br

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
t-Bu	3-Me	5-Cl	Br	Br	*t*-Bu	3-Cl	5-Cl	Br	Br
Me	3-Me	H	Br	Br	Me	3-Cl	H	Br	Br
Et	3-Me	H	Cl	Br	Et	3-Cl	H	Cl	Br
i-Pr	3-Me	5-Br	Cl	Br	*i*-Pr	3-Cl	5-Br	Cl	Br
t-Bu	3-Me	H	I	Br	*t*-Bu	3-Cl	H	I	Br
propargyl	3-Me	H	CF_3	Br	propargyl	3-Cl	H	CF_3	Br
c-propyl	3-Me	H	OCF_3	Br	*c*-propyl	3-Cl	H	OCF_3	Br
i-Pr	3-Me	5-Cl	CF_3	Br	*i*-Pr	3-Cl	5-Cl	CF_3	Br
t-Bu	3-Me	H	SCF_3	Br	t-Bu	3-Cl	H	SCF_3	Br
Me	3-Me	5-Cl	$SCHF_2$	Br	Me	3-Cl	5-Cl	$SCHF_2$	Br
Et	3-Me	H	$OCHF_2$	Br	Et	3-Cl	H	$OCHF_2$	Br
i-Pr	3-Me	H	CF_3	Br	*i*-Pr	3-Cl	H	CF_3	Br
t-Bu	3-Me	H	C_2F_5	Br	*t*-Bu	3-Cl	H	C_2F_5	Br
propargyl	3-Me	H	C_2F_5	Br	propargyl	3-Cl	H	C_2F_5	Br
c-propyl	3-Me	H	CF_3	Br	*c*-propyl	3-Cl	H	CF_3	Br
i-Pr	3-Me	H	Me	Br	*i*-Pr	3-Cl	H	Me	Br
t-Bu	3-Me	5-Br	CN	Br	*t*-Bu	3-Cl	5-Br	CN	Br
Me	6-Me	H	$OCHF_2$	F	Me	6-Cl	H	$OCHF_2$	F
Et	6-Me	H	$OCHF_2$	F	Et	6-Cl	H	$OCHF_2$	F
i-Pr	6-Me	H	$OCHF_2$	F	*i*-Pr	6-Cl	H	$OCHF_2$	F
t-Bu	6-Me	H	$OCHF_2$	F	*t*-Bu	6-Cl	H	$OCHF_2$	F
Me	6-Me	H	$SCHF_2$	F	Me	6-Cl	H	$SCHF_2$	F
Et	6-Me	H	$SCHF_2$	F	Et	6-Cl	H	$SCHF_2$	F
i-Pr	6-Me	H	$SCHF_2$	F	*i*-Pr	6-Cl	H	$SCHF_2$	F
t-Bu	6-Me	H	$SCHF_2$	F	*t*-Bu	6-Cl	H	$SCHF_2$	F
Me	6-Me	H	OCF_3	F	Me	6-Cl	H	OCF_3	F
Et	6-Me	H	OCF_3	F	Et	6-Cl	H	OCF_3	F
i-Pr	6-Me	H	OCF_3	F	*i*-Pr	6-Cl	H	OCF_3	F
t-Bu	6-Me	H	OCF_3	F	*t*-Bu	6-Cl	H	OCF_3	F
Me	6-Me	H	SCF_3	F	Me	6-Cl	H	SCF_3	F
Et	6-Me	H	SCF_3	F	Et	6-Cl	H	SCF_3	F
i-Pr	6-Me	H	SCF_3	F	*i*-Pr	6-Cl	H	SCF_3	F
t-Bu	6-Me	H	SCF_3	F	*t*-Bu	6-Cl	H	SCF_3	F
Me	6-Me	H	C_2F_5	F	Me	6-Cl	H	C_2F_5	F
Et	6-Me	H	C_2F_5	F	Et	6-Cl	H	C_2F_5	F
i-Pr	6-Me	H	C_2F_5	F	*i*-Pr	6-Cl	H	C_2F_5	F
t-Bu	6-Me	H	C_2F_5	F	*t*-Bu	6-Cl	H	C_2F_5	F

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
Me	6-Me	H	*n*-C_3F_7	F	Me	6-Cl	H	*n*-C_3F_7	F
Et	6-Me	H	*n*-C_3F_7	F	Et	6-Cl	H	*n*-C_3F_7	F
i-Pr	6-Me	H	*n*-C_3F_7	F	*i*-Pr	6-Cl	H	*n*-C_3F_7	F
t-Bu	6-Me	H	*n*-C_3F_7	F	*t*-Bu	6-Cl	H	*n*-C_3F_7	F
Me	6-Me	H	*i*-C_3F_7	F	Me	6-Cl	H	*i*-C_3F_7	F
Et	6-Me	H	*i*-C_3F_7	F	Et	6-Cl	H	*i*-C_3F_7	F
i-Pr	6-Me	H	*i*-C_3F_7	F	*i*-Pr	6-Cl	H	*i*-C_3F_7	F
t-Bu	6-Me	H	*i*-C_3F_7	F	*t*-Bu	6-Cl	H	*i*-C_3F_7	F
Me	6-Me	H	CN	F	Me	6-Cl	H	CN	F
Et	6-Me	H	CN	F	Et	6-Cl	H	CN	F
i-Pr	6-Me	H	CN	F	*i*-Pr	6-Cl	H	CN	F
t-Bu	6-Me	H	CN	F	*t*-Bu	6-Cl	H	CN	F
Me	6-Me	H	$OCHF_2$	Cl	Me	6-Cl	H	$OCHF_2$	Cl
Et	6-Me	H	$OCHF_2$	Cl	Et	6-Cl	H	$OCHF_2$	Cl
i-Pr	6-Me	H	$OCHF_2$	Cl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl
t-Bu	6-Me	H	$OCHF_2$	Cl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl
Me	6-Me	H	$SCHF_2$	Cl	Me	6-Cl	H	$SCHF_2$	Cl
Et	6-Me	H	$SCHF_2$	Cl	Et	6-Cl	H	$SCHF_2$	Cl
i-Pr	6-Me	H	$SCHF_2$	Cl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl
t-Bu	6-Me	H	$SCHF_2$	Cl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl
Me	6-Me	H	OCF_3	Cl	Me	6-Cl	H	OCF_3	Cl
Et	6-Me	H	OCF_3	Cl	Et	6-Cl	H	OCF_3	Cl
i-Pr	6-Me	H	OCF_3	Cl	*i*-Pr	6-Cl	H	OCF_3	Cl
t-Bu	6-Me	H	OCF_3	Cl	*t*-Bu	6-Cl	H	OCF_3	Cl
Me	6-Me	H	SCF_3	Cl	Me	6-Cl	H	SCF_3	Cl
Et	6-Me	H	SCF_3	Cl	Et	6-Cl	H	SCF_3	Cl
i-Pr	6-Me	H	SCF_3	Cl	*i*-Pr	6-Cl	H	SCF_3	Cl
t-Bu	6-Me	H	SCF_3	Cl	*t*-Bu	6-Cl	H	SCF_3	Cl
Me	6-Me	H	C_2F_5	Cl	Me	6-Cl	H	C_2F_5	Cl
Et	6-Me	H	C_2F_5	Cl	Et	6-Cl	H	C_2F_5	Cl
i-Pr	6-Me	H	C_2F_5	Cl	*i*-Pr	6-Cl	H	C_2F_5	Cl
t-Bu	6-Me	H	C_2F_5	Cl	*t*-Bu	6-Cl	H	C_2F_5	Cl
Me	6-Me	H	*n*-C_3F_7	Cl	Me	6-Cl	H	*n*-C_3F_7	Cl
Et	6-Me	H	*n*-C_3F_7	Cl	Et	6-Cl	H	*n*-C_3F_7	Cl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl
Me	6-Me	H	*i*-C_3F_7	Cl	Me	6-Cl	H	*i*-C_3F_7	Cl

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
Et	6-Me	H	*i*-C_3F_7	Cl	Et	6-Cl	H	*i*-C_3F_7	Cl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl
Me	6-Me	H	CN	Cl	Me	6-Cl	H	CN	Cl
Et	6-Me	H	CN	Cl	Et	6-Cl	H	CN	Cl
i-Pr	6-Me	H	CN	Cl	*i*-Pr	6-Cl	H	CN	Cl
t-Bu	6-Me	H	CN	Cl	*t*-Bu	6-Cl	H	CN	Cl
Me	6-Me	H	$OCHF_2$	Br	Me	6-Cl	H	$OCHF_2$	Br
Et	6-Me	H	$OCHF_2$	Br	Et	6-Cl	H	$OCHF_2$	Br
i-Pr	6-Me	H	$OCHF_2$	Br	*i*-Pr	6-Cl	H	$OCHF_2$	Br
t-Bu	6-Me	H	$OCHF_2$	Br	*t*-Bu	6-Cl	H	$OCHF_2$	Br
Me	6-Me	H	$SCHF_2$	Br	Me	6-Cl	H	$SCHF_2$	Br
Et	6-Me	H	$SCHF_2$	Br	Et	6-Cl	H	$SCHF_2$	Br
i-Pr	6-Me	H	$SCHF_2$	Br	*i*-Pr	6-Cl	H	$SCHF_2$	Br
t-Bu	6-Me	H	$SCHF_2$	Br	*t*-Bu	6-Cl	H	$SCHF_2$	Br
Me	6-Me	H	OCF_3	Br	Me	6-Cl	H	OCF_3	Br
Et	6-Me	H	OCF_3	Br	Et	6-Cl	H	OCF_3	Br
i-Pr	6-Me	H	OCF_3	Br	*i*-Pr	6-Cl	H	OCF_3	Br
t-Bu	6-Me	H	OCF_3	Br	*t*-Bu	6-Cl	H	OCF_3	Br
Me	6-Me	H	SCF_3	Br	Me	6-Cl	H	SCF_3	Br
Et	6-Me	H	SCF_3	Br	Et	6-Cl	H	SCF_3	Br
i-Pr	6-Me	H	SCF_3	Br	*i*-Pr	6-Cl	H	SCF_3	Br
t-Bu	6-Me	H	SCF_3	Br	*t*-Bu	6-Cl	H	SCF_3	Br
Me	6-Me	H	C_2F_5	Br	Me	6-Cl	H	C_2F_5	Br
Et	6-Me	H	C_2F_5	Br	Et	6-Cl	H	C_2F_5	Br
i-Pr	6-Me	H	C_2F_5	Br	*i*-Pr	6-Cl	H	C_2F_5	Br
t-Bu	6-Me	H	C_2F_5	Br	*t*-Bu	6-Cl	H	C_2F_5	Br
Me	6-Me	H	*n*-C_3F_7	Br	Me	6-Cl	H	*n*-C_3F_7	Br
Et	6-Me	H	*n*-C_3F_7	Br	Et	6-Cl	H	*n*-C_3F_7	Br
i-Pr	6-Me	H	*n*-C_3F_7	Br	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br
t-Bu	6-Me	H	*n*-C_3F_7	Br	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br
Me	6-Me	H	*i*-C_3F_7	Br	Me	6-Cl	H	*i*-C_3F_7	Br
Et	6-Me	H	*i*-C_3F_7	Br	Et	6-Cl	H	*i*-C_3F_7	Br
i-Pr	6-Me	H	*i*-C_3F_7	Br	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br
t-Bu	6-Me	H	*i*-C_3F_7	Br	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br
Me	6-Me	H	CN	Br	Me	6-Cl	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-Cl	H	CN	Br

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
i-Pr	6-Me	H	CN	Br	*i*-Pr	6-Cl	H	CN	Br
t-Bu	6-Me	H	CN	Br	*t*-Bu	6-Cl	H	CN	Br
Me	6-Me	H	$OCHF_2$	CF_3	Me	6-Cl	H	$OCHF_2$	CF_3
Et	6-Me	H	$OCHF_2$	CF_3	Et	6-Cl	H	$OCHF_2$	CF_3
i-Pr	6-Me	H	$OCHF_2$	CF_3	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3
t-Bu	6-Me	H	$OCHF_2$	CF_3	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3
Me	6-Me	H	$SCHF_2$	CF_3	Me	6-Cl	H	$SCHF_2$	CF_3
Et	6-Me	H	$SCHF_2$	CF_3	Et	6-Cl	H	$SCHF_2$	CF_3
i-Pr	6-Me	H	$SCHF_2$	CF_3	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3
t-Bu	6-Me	H	$SCHF_2$	CF_3	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3
Me	6-Me	H	OCF_3	CF_3	Me	6-Cl	H	OCF_3	CF_3
Et	6-Me	H	OCF_3	CF_3	Et	6-Cl	H	OCF_3	CF_3
i-Pr	6-Me	H	OCF_3	CF_3	*i*-Pr	6-Cl	H	OCF_3	CF_3
t-Bu	6-Me	H	OCF_3	CF_3	*t*-Bu	6-Cl	H	OCF_3	CF_3
Me	6-Me	H	SCF_3	CF_3	Me	6-Cl	H	SCF_3	CF_3
Et	6-Me	H	SCF_3	CF_3	Et	6-Cl	H	SCF_3	CF_3
i-Pr	6-Me	H	SCF_3	CF_3	*i*-Pr	6-Cl	H	SCF_3	CF_3
t-Bu	6-Me	H	SCF_3	CF_3	*t*-Bu	6-Cl	H	SCF_3	CF_3
Me	6-Me	H	C_2F_5	CF_3	Me	6-Cl	H	C_2F_5	CF_3
Et	6-Me	H	C_2F_5	CF_3	Et	6-Cl	H	C_2F_5	CF_3
i-Pr	6-Me	H	C_2F_5	CF_3	*i*-Pr	6-Cl	H	C_2F_5	CF_3
t-Bu	6-Me	H	C_2F_5	CF_3	*t*-Bu	6-Cl	H	C_2F_5	CF_3
Me	6-Me	H	*n*-C_3F_7	CF_3	Me	6-Cl	H	*n*-C_3F_7	CF_3
Et	6-Me	H	*n*-C_3F_7	CF_3	Et	6-Cl	H	*n*-C_3F_7	CF_3
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3
Me	6-Me	H	*i*-C_3F_7	CF_3	Me	6-Cl	H	*i*-C_3F_7	CF_3
Et	6-Me	H	*i*-C_3F_7	CF_3	Et	6-Cl	H	*i*-C_3F_7	CF_3
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3
Me	6-Me	H	CN	CF_3	Me	6-Cl	H	CN	CF_3
Et	6-Me	H	CN	CF_3	Et	6-Cl	H	CN	CF_3
i-Pr	6-Me	H	CN	CF_3	*i*-Pr	6-Cl	H	CN	CF_3
t-Bu	6-Me	H	CN	CF_3	*t*-Bu	6-Cl	H	CN	CF_3
Me	6-Me	Cl	$OCHF_2$	F	Me	6-Cl	Cl	$OCHF_2$	F
Et	6-Me	Cl	$OCHF_2$	F	Et	6-Cl	Cl	$OCHF_2$	F
i-Pr	6-Me	Cl	$OCHF_2$	F	*i*-Pr	6-Cl	Cl	$OCHF_2$	F

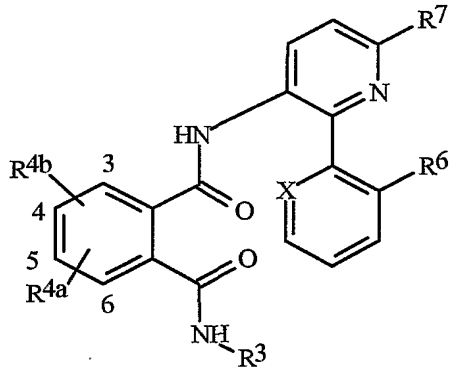
R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
t-Bu	6-Me	Cl	$OCHF_2$	F	*t*-Bu	6-Cl	Cl	$OCHF_2$	F
Me	6-Me	Cl	$SCHF_2$	F	Me	6-Cl	Cl	$SCHF_2$	F
Et	6-Me	Cl	$SCHF_2$	F	Et	6-Cl	Cl	$SCHF_2$	F
i-Pr	6-Me	Cl	$SCHF_2$	F	*i*-Pr	6-Cl	Cl	$SCHF_2$	F
t-Bu	6-Me	Cl	$SCHF_2$	F	*t*-Bu	6-Cl	Cl	$SCHF_2$	F
Me	6-Me	Cl	OCF_3	F	Me	6-Cl	Cl	OCF_3	F
Et	6-Me	Cl	OCF_3	F	Et	6-Cl	Cl	OCF_3	F
i-Pr	6-Me	Cl	OCF_3	F	*i*-Pr	6-Cl	Cl	OCF_3	F
t-Bu	6-Me	Cl	OCF_3	F	*t*-Bu	6-Cl	Cl	OCF_3	F
Me	6-Me	Cl	SCF_3	F	Me	6-Cl	Cl	SCF_3	F
Et	6-Me	Cl	SCF_3	F	Et	6-Cl	Cl	SCF_3	F
i-Pr	6-Me	Cl	SCF_3	F	*i*-Pr	6-Cl	Cl	SCF_3	F
t-Bu	6-Me	Cl	SCF_3	F	*t*-Bu	6-Cl	Cl	SCF_3	F
Me	6-Me	Cl	C_2F_5	F	Me	6-Cl	Cl	C_2F_5	F
Et	6-Me	Cl	C_2F_5	F	Et	6-Cl	Cl	C_2F_5	F
i-Pr	6-Me	Cl	C_2F_5	F	*i*-Pr	6-Cl	Cl	C_2F_5	F
t-Bu	6-Me	Cl	C_2F_5	F	*t*-Bu	6-Cl	Cl	C_2F_5	F
Me	6-Me	Cl	*n*-C_3F_7	F	Me	6-Cl	Cl	*n*-C_3F_7	F
Et	6-Me	Cl	*n*-C_3F_7	F	Et	6-Cl	Cl	*n*-C_3F_7	F
i-Pr	6-Me	Cl	*n*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F
t-Bu	6-Me	Cl	*n*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F
Me	6-Me	Cl	*i*-C_3F_7	F	Me	6-Cl	Cl	*i*-C_3F_7	F
Et	6-Me	Cl	*i*-C_3F_7	F	Et	6-Cl	Cl	*i*-C_3F_7	F
i-Pr	6-Me	Cl	*i*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F
t-Bu	6-Me	Cl	*i*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F
Me	6-Me	Cl	CN	F	Me	6-Cl	Cl	CN	F
Et	6-Me	Cl	CN	F	Et	6-Cl	Cl	CN	F
i-Pr	6-Me	Cl	CN	F	*i*-Pr	6-Cl	Cl	CN	F
t-Bu	6-Me	Cl	CN	F	*t*-Bu	6-Cl	Cl	CN	F
Me	6-Me	Cl	$OCHF_2$	Cl	Me	6-Cl	Cl	$OCHF_2$	Cl
Et	6-Me	Cl	$OCHF_2$	Cl	Et	6-Cl	Cl	$OCHF_2$	Cl
i-Pr	6-Me	Cl	$OCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl
t-Bu	6-Me	Cl	$OCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl
Me	6-Me	Cl	$SCHF_2$	Cl	Me	6-Cl	Cl	$SCHF_2$	Cl
Et	6-Me	Cl	$SCHF_2$	Cl	Et	6-Cl	Cl	$SCHF_2$	Cl
i-Pr	6-Me	Cl	$SCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl
t-Bu	6-Me	Cl	$SCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
Me	6-Me	Cl	OCF_3	Cl	Me	6-Cl	Cl	OCF_3	Cl
Et	6-Me	Cl	OCF_3	Cl	Et	6-Cl	Cl	OCF_3	Cl
i-Pr	6-Me	Cl	OCF_3	Cl	*i*-Pr	6-Cl	Cl	OCF_3	Cl
t-Bu	6-Me	Cl	OCF_3	Cl	*t*-Bu	6-Cl	Cl	OCF_3	Cl
Me	6-Me	Cl	SCF_3	Cl	Me	6-Cl	Cl	SCF_3	Cl
Et	6-Me	Cl	SCF_3	Cl	Et	6-Cl	Cl	SCF_3	Cl
i-Pr	6-Me	Cl	SCF_3	Cl	*i*-Pr	6-Cl	Cl	SCF_3	Cl
t-Bu	6-Me	Cl	SCF_3	Cl	*t*-Bu	6-Cl	Cl	SCF_3	Cl
Me	6-Me	Cl	C_2F_5	Cl	Me	6-Cl	Cl	C_2F_5	Cl
Et	6-Me	Cl	C_2F_5	Cl	Et	6-Cl	Cl	C_2F_5	Cl
i-Pr	6-Me	Cl	C_2F_5	Cl	*i*-Pr	6-Cl	Cl	C_2F_5	Cl
t-Bu	6-Me	Cl	C_2F_5	Cl	*t*-Bu	6-Cl	Cl	C_2F_5	Cl
Me	6-Me	Cl	*n*-C_3F_7	Cl	Me	6-Cl	Cl	*n*-C_3F_7	Cl
Et	6-Me	Cl	*n*-C_3F_7	Cl	Et	6-Cl	Cl	*n*-C_3F_7	Cl
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl
Me	6-Me	Cl	*i*-C_3F_7	Cl	Me	6-Cl	Cl	*i*-C_3F_7	Cl
Et	6-Me	Cl	*i*-C_3F_7	Cl	Et	6-Cl	Cl	*i*-C_3F_7	Cl
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl
Me	6-Me	Cl	CN	Cl	Me	6-Cl	Cl	CN	Cl
Et	6-Me	Cl	CN	Cl	Et	6-Cl	Cl	CN	Cl
i-Pr	6-Me	Cl	CN	Cl	*i*-Pr	6-Cl	Cl	CN	Cl
t-Bu	6-Me	Cl	CN	Cl	*t*-Bu	6-Cl	Cl	CN	Cl
Me	6-Me	Cl	$OCHF_2$	Br	Me	6-Cl	Cl	$OCHF_2$	Br
Et	6-Me	Cl	$OCHF_2$	Br	Et	6-Cl	Cl	$OCHF_2$	Br
i-Pr	6-Me	Cl	$OCHF_2$	Br	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br
t-Bu	6-Me	Cl	$OCHF_2$	Br	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br
Me	6-Me	Cl	$SCHF_2$	Br	Me	6-Cl	Cl	$SCHF_2$	Br
Et	6-Me	Cl	$SCHF_2$	Br	Et	6-Cl	Cl	$SCHF_2$	Br
i-Pr	6-Me	Cl	$SCHF_2$	Br	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br
t-Bu	6-Me	Cl	$SCHF_2$	Br	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br
Me	6-Me	Cl	OCF_3	Br	Me	6-Cl	Cl	OCF_3	Br
Et	6-Me	Cl	OCF_3	Br	Et	6-Cl	Cl	OCF_3	Br
i-Pr	6-Me	Cl	OCF_3	Br	*i*-Pr	6-Cl	Cl	OCF_3	Br
t-Bu	6-Me	Cl	OCF_3	Br	*t*-Bu	6-Cl	Cl	OCF_3	Br
Me	6-Me	Cl	SCF_3	Br	Me	6-Cl	Cl	SCF_3	Br

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
Et	6-Me	Cl	SCF_3	Br	Et	6-Cl	Cl	SCF_3	Br
i-Pr	6-Me	Cl	SCF_3	Br	*i*-Pr	6-Cl	Cl	SCF_3	Br
t-Bu	6-Me	Cl	SCF_3	Br	*t*-Bu	6-Cl	Cl	SCF_3	Br
Me	6-Me	Cl	C_2F_5	Br	Me	6-Cl	Cl	C_2F_5	Br
Et	6-Me	Cl	C_2F_5	Br	Et	6-Cl	Cl	C_2F_5	Br
i-Pr	6-Me	Cl	C_2F_5	Br	*i*-Pr	6-Cl	Cl	C_2F_5	Br
t-Bu	6-Me	Cl	C_2F_5	Br	*t*-Bu	6-Cl	Cl	C_2F_5	Br
Me	6-Me	Cl	*n*-C_3F_7	Br	Me	6-Cl	Cl	*n*-C_3F_7	Br
Et	6-Me	Cl	*n*-C_3F_7	Br	Et	6-Cl	Cl	*n*-C_3F_7	Br
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br
Me	6-Me	Cl	*i*-C_3F_7	Br	Me	6-Cl	Cl	*i*-C_3F_7	Br
Et	6-Me	Cl	*i*-C_3F_7	Br	Et	6-Cl	Cl	*i*-C_3F_7	Br
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br
Me	6-Me	Cl	CN	Br	Me	6-Cl	Cl	CN	Br
Et	6-Me	Cl	CN	Br	Et	6-Cl	Cl	CN	Br
i-Pr	6-Me	Cl	CN	Br	*i*-Pr	6-Cl	Cl	CN	Br
t-Bu	6-Me	Cl	CN	Br	*t*-Bu	6-Cl	Cl	CN	Br
Me	6-Me	Cl	$OCHF_2$	CF_3	Me	6-Cl	Cl	$OCHF_2$	CF_3
Et	6-Me	Cl	$OCHF_2$	CF_3	Et	6-Cl	Cl	$OCHF_2$	CF_3
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3
Me	6-Me	Cl	$SCHF_2$	CF_3	Me	6-Cl	Cl	$SCHF_2$	CF_3
Et	6-Me	Cl	$SCHF_2$	CF_3	Et	6-Cl	Cl	$SCHF_2$	CF_3
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3
Me	6-Me	Cl	OCF_3	CF_3	Me	6-Cl	Cl	OCF_3	CF_3
Et	6-Me	Cl	OCF_3	CF_3	Et	6-Cl	Cl	OCF_3	CF_3
i-Pr	6-Me	Cl	OCF_3	CF_3	*i*-Pr	6-Cl	Cl	OCF_3	CF_3
t-Bu	6-Me	Cl	OCF_3	CF_3	*t*-Bu	6-Cl	Cl	OCF_3	CF_3
Me	6-Me	Cl	SCF_3	CF_3	Me	6-Cl	Cl	SCF_3	CF_3
Et	6-Me	Cl	SCF_3	CF_3	Et	6-Cl	Cl	SCF_3	CF_3
i-Pr	6-Me	Cl	SCF_3	CF_3	*i*-Pr	6-Cl	Cl	SCF_3	CF_3
t-Bu	6-Me	Cl	SCF_3	CF_3	*t*-Bu	6-Cl	Cl	SCF_3	CF_3
Me	6-Me	Cl	C_2F_5	CF_3	Me	6-Cl	Cl	C_2F_5	CF_3
Et	6-Me	Cl	C_2F_5	CF_3	Et	6-Cl	Cl	C_2F_5	CF_3

R^3	R^{4a}	R^{4b}	R^6	R^7	R^3	R^{4a}	R^{4b}	R^6	R^7
i-Pr	6-Me	Cl	C_2F_5	CF_3	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3
t-Bu	6-Me	Cl	C_2F_5	CF_3	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3
Me	6-Me	Cl	*n*-C_3F_7	CF_3	Me	6-Cl	Cl	*n*-C_3F_7	CF_3
Et	6-Me	Cl	*n*-C_3F_7	CF_3	Et	6-Cl	Cl	*n*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3
Me	6-Me	Cl	*i*-C_3F_7	CF_3	Me	6-Cl	Cl	*i*-C_3F_7	CF_3
Et	6-Me	Cl	*i*-C_3F_7	CF_3	Et	6-Cl	Cl	*i*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3
Me	6-Me	Cl	CN	CF_3	Me	6-Cl	Cl	CN	CF_3
Et	6-Me	Cl	CN	CF_3	Et	6-Cl	Cl	CN	CF_3
i-Pr	6-Me	Cl	CN	CF_3	*i*-Pr	6-Cl	Cl	CN	CF_3
t-Bu	6-Me	Cl	CN	CF_3	*t*-Bu	6-Cl	Cl	CN	CF_3

Table 6



R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	$OCHF_2$	F	CH	Me	6-Cl	H	$OCHF_2$	F	CH
Et	6-Me	H	$OCHF_2$	F	CH	Et	6-Cl	H	$OCHF_2$	F	CH
i-Pr	6-Me	H	$OCHF_2$	F	CH	*i*-Pr	6-Cl	H	$OCHF_2$	F	CH
t-Bu	6-Me	H	$OCHF_2$	F	CH	*t*-Bu	6-Cl	H	$OCHF_2$	F	CH
Me	6-Me	H	$SCHF_2$	F	CH	Me	6-Cl	H	$SCHF_2$	F	CH
Et	6-Me	H	$SCHF_2$	F	CH	Et	6-Cl	H	$SCHF_2$	F	CH
i-Pr	6-Me	H	$SCHF_2$	F	CH	*i*-Pr	6-Cl	H	$SCHF_2$	F	CH
t-Bu	6-Me	H	$SCHF_2$	F	CH	*t*-Bu	6-Cl	H	$SCHF_2$	F	CH
Me	6-Me	H	OCF_3	F	CH	Me	6-Cl	H	OCF_3	F	CH
Et	6-Me	H	OCF_3	F	CH	Et	6-Cl	H	OCF_3	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	H	OCF_3	F	CH	*i*-Pr	6-Cl	H	OCF_3	F	CH
t-Bu	6-Me	H	OCF_3	F	CH	*t*-Bu	6-Cl	H	OCF_3	F	CH
Me	6-Me	H	SCF_3	F	CH	Me	6-Cl	H	SCF_3	F	CH
Et	6-Me	H	SCF_3	F	CH	Et	6-Cl	H	SCF_3	F	CH
i-Pr	6-Me	H	SCF_3	F	CH	*i*-Pr	6-Cl	H	SCF_3	F	CH
t-Bu	6-Me	H	SCF_3	F	CH	*t*-Bu	6-Cl	H	SCF_3	F	CH
Me	6-Me	H	C_2F_5	F	CH	Me	6-Cl	H	C_2F_5	F	CH
Et	6-Me	H	C_2F_5	F	CH	Et	6-Cl	H	C_2F_5	F	CH
i-Pr	6-Me	H	C_2F_5	F	CH	*i*-Pr	6-Cl	H	C_2F_5	F	CH
t-Bu	6-Me	H	C_2F_5	F	CH	*t*-Bu	6-Cl	H	C_2F_5	F	CH
Me	6-Me	H	*n*-C_3F_7	F	CH	Me	6-Cl	H	*n*-C_3F_7	F	CH
Et	6-Me	H	*n*-C_3F_7	F	CH	Et	6-Cl	H	*n*-C_3F_7	F	CH
i-Pr	6-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CH
t-Bu	6-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CH
Me	6-Me	H	*i*-C_3F_7	F	CH	Me	6-Cl	H	*i*-C_3F_7	F	CH
Et	6-Me	H	*i*-C_3F_7	F	CH	Et	6-Cl	H	*i*-C_3F_7	F	CH
i-Pr	6-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CH
t-Bu	6-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CH
Me	6-Me	H	CN	F	CH	Me	6-Cl	H	CN	F	CH
Et	6-Me	H	CN	F	CH	Et	6-Cl	H	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	*i*-Pr	6-Cl	H	CN	F	CH
t-Bu	6-Me	H	CN	F	CH	*t*-Bu	6-Cl	H	CN	F	CH
Me	6-Me	H	$OCHF_2$	Cl	CH	Me	6-Cl	H	$OCHF_2$	Cl	CH
Et	6-Me	H	$OCHF_2$	Cl	CH	Et	6-Cl	H	$OCHF_2$	Cl	CH
i-Pr	6-Me	H	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CH
t-Bu	6-Me	H	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CH
Me	6-Me	H	$SCHF_2$	Cl	CH	Me	6-Cl	H	$SCHF_2$	Cl	CH
Et	6-Me	H	$SCHF_2$	Cl	CH	Et	6-Cl	H	$SCHF_2$	Cl	CH
i-Pr	6-Me	H	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CH
t-Bu	6-Me	H	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CH
Me	6-Me	H	OCF_3	Cl	CH	Me	6-Cl	H	OCF_3	Cl	CH
Et	6-Me	H	OCF_3	Cl	CH	Et	6-Cl	H	OCF_3	Cl	CH
i-Pr	6-Me	H	OCF_3	Cl	CH	*i*-Pr	6-Cl	H	OCF_3	Cl	CH
t-Bu	6-Me	H	OCF_3	Cl	CH	*t*-Bu	6-Cl	H	OCF_3	Cl	CH
Me	6-Me	H	SCF_3	Cl	CH	Me	6-Cl	H	SCF_3	Cl	CH
Et	6-Me	H	SCF_3	Cl	CH	Et	6-Cl	H	SCF_3	Cl	CH
i-Pr	6-Me	H	SCF_3	Cl	CH	*i*-Pr	6-Cl	H	SCF_3	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	H	SCF_3	Cl	CH	*t*-Bu	6-Cl	H	SCF_3	Cl	CH
Me	6-Me	H	C_2F_5	Cl	CH	Me	6-Cl	H	C_2F_5	Cl	CH
Et	6-Me	H	C_2F_5	Cl	CH	Et	6-Cl	H	C_2F_5	Cl	CH
i-Pr	6-Me	H	C_2F_5	Cl	CH	*i*-Pr	6-Cl	H	C_2F_5	Cl	CH
t-Bu	6-Me	H	C_2F_5	Cl	CH	*t*-Bu	6-Cl	H	C_2F_5	Cl	CH
Me	6-Me	H	*n*-C_3F_7	Cl	CH	Me	6-Cl	H	*n*-C_3F_7	Cl	CH
Et	6-Me	H	*n*-C_3F_7	Cl	CH	Et	6-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CH
Me	6-Me	H	*i*-C_3F_7	Cl	CH	Me	6-Cl	H	*i*-C_3F_7	Cl	CH
Et	6-Me	H	*i*-C_3F_7	Cl	CH	Et	6-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CH
Me	6-Me	H	CN	Cl	CH	Me	6-Cl	H	CN	Cl	CH
Et	6-Me	H	CN	Cl	CH	Et	6-Cl	H	CN	Cl	CH
i-Pr	6-Me	H	CN	Cl	CH	*i*-Pr	6-Cl	H	CN	Cl	CH
t-Bu	6-Me	H	CN	Cl	CH	*t*-Bu	6-Cl	H	CN	Cl	CH
Me	6-Me	H	$OCHF_2$	Br	CH	Me	6-Cl	H	$OCHF_2$	Br	CH
Et	6-Me	H	$OCHF_2$	Br	CH	Et	6-Cl	H	$OCHF_2$	Br	CH
i-Pr	6-Me	H	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Br	CH
t-Bu	6-Me	H	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Br	CH
Me	6-Me	H	$SCHF_2$	Br	CH	Me	6-Cl	H	$SCHF_2$	Br	CH
Et	6-Me	H	$SCHF_2$	Br	CH	Et	6-Cl	H	$SCHF_2$	Br	CH
i-Pr	6-Me	H	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Br	CH
t-Bu	6-Me	H	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Br	CH
Me	6-Me	H	OCF_3	Br	CH	Me	6-Cl	H	OCF_3	Br	CH
Et	6-Me	H	OCF_3	Br	CH	Et	6-Cl	H	OCF_3	Br	CH
i-Pr	6-Me	H	OCF_3	Br	CH	*i*-Pr	6-Cl	H	OCF_3	Br	CH
t-Bu	6-Me	H	OCF_3	Br	CH	*t*-Bu	6-Cl	H	OCF_3	Br	CH
Me	6-Me	H	SCF_3	Br	CH	Me	6-Cl	H	SCF_3	Br	CH
Et	6-Me	H	SCF_3	Br	CH	Et	6-Cl	H	SCF_3	Br	CH
i-Pr	6-Me	H	SCF_3	Br	CH	*i*-Pr	6-Cl	H	SCF_3	Br	CH
t-Bu	6-Me	H	SCF_3	Br	CH	*t*-Bu	6-Cl	H	SCF_3	Br	CH
Me	6-Me	H	C_2F_5	Br	CH	Me	6-Cl	H	C_2F_5	Br	CH
Et	6-Me	H	C_2F_5	Br	CH	Et	6-Cl	H	C_2F_5	Br	CH
i-Pr	6-Me	H	C_2F_5	Br	CH	*i*-Pr	6-Cl	H	C_2F_5	Br	CH
t-Bu	6-Me	H	C_2F_5	Br	CH	*t*-Bu	6-Cl	H	C_2F_5	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	n-C_3F_7	Br	CH	Me	6-Cl	H	n-C_3F_7	Br	CH
Et	6-Me	H	n-C_3F_7	Br	CH	Et	6-Cl	H	n-C_3F_7	Br	CH
i-Pr	6-Me	H	n-C_3F_7	Br	CH	i-Pr	6-Cl	H	n-C_3F_7	Br	CH
t-Bu	6-Me	H	n-C_3F_7	Br	CH	t-Bu	6-Cl	H	n-C_3F_7	Br	CH
Me	6-Me	H	i-C_3F_7	Br	CH	Me	6-Cl	H	i-C_3F_7	Br	CH
Et	6-Me	H	i-C_3F_7	Br	CH	Et	6-Cl	H	i-C_3F_7	Br	CH
i-Pr	6-Me	H	i-C_3F_7	Br	CH	i-Pr	6-Cl	H	i-C_3F_7	Br	CH
t-Bu	6-Me	H	i-C_3F_7	Br	CH	t-Bu	6-Cl	H	i-C_3F_7	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-Cl	H	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-Cl	H	CN	Br	CH
i-Pr	6-Me	H	CN	Br	CH	i-Pr	6-Cl	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	t-Bu	6-Cl	H	CN	Br	CH
Me	6-Me	H	$OCHF_2$	CF_3	CH	Me	6-Cl	H	$OCHF_2$	CF_3	CH
Et	6-Me	H	$OCHF_2$	CF_3	CH	Et	6-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	6-Me	H	$OCHF_2$	CF_3	CH	i-Pr	6-Cl	H	$OCHF_2$	CF_3	CH
t-Bu	6-Me	H	$OCHF_2$	CF_3	CH	t-Bu	6-Cl	H	$OCHF_2$	CF_3	CH
Me	6-Me	H	$SCHF_2$	CF_3	CH	Me	6-Cl	H	$SCHF_2$	CF_3	CH
Et	6-Me	H	$SCHF_2$	CF_3	CH	Et	6-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	6-Me	H	$SCHF_2$	CF_3	CH	i-Pr	6-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	6-Me	H	$SCHF_2$	CF_3	CH	t-Bu	6-Cl	H	$SCHF_2$	CF_3	CH
Me	6-Me	H	OCF_3	CF_3	CH	Me	6-Cl	H	OCF_3	CF_3	CH
Et	6-Me	H	OCF_3	CF_3	CH	Et	6-Cl	H	OCF_3	CF_3	CH
i-Pr	6-Me	H	OCF_3	CF_3	CH	i-Pr	6-Cl	H	OCF_3	CF_3	CH
t-Bu	6-Me	H	OCF_3	CF_3	CH	t-Bu	6-Cl	H	OCF_3	CF_3	CH
Me	6-Me	H	SCF_3	CF_3	CH	Me	6-Cl	H	SCF_3	CF_3	CH
Et	6-Me	H	SCF_3	CF_3	CH	Et	6-Cl	H	SCF_3	CF_3	CH
i-Pr	6-Me	H	SCF_3	CF_3	CH	i-Pr	6-Cl	H	SCF_3	CF_3	CH
t-Bu	6-Me	H	SCF_3	CF_3	CH	t-Bu	6-Cl	H	SCF_3	CF_3	CH
Me	6-Me	H	C_2F_5	CF_3	CH	Me	6-Cl	H	C_2F_5	CF_3	CH
Et	6-Me	H	C_2F_5	CF_3	CH	Et	6-Cl	H	C_2F_5	CF_3	CH
i-Pr	6-Me	H	C_2F_5	CF_3	CH	i-Pr	6-Cl	H	C_2F_5	CF_3	CH
t-Bu	6-Me	H	C_2F_5	CF_3	CH	t-Bu	6-Cl	H	C_2F_5	CF_3	CH
Me	6-Me	H	n-C_3F_7	CF_3	CH	Me	6-Cl	H	n-C_3F_7	CF_3	CH
Et	6-Me	H	n-C_3F_7	CF_3	CH	Et	6-Cl	H	n-C_3F_7	CF_3	CH
i-Pr	6-Me	H	n-C_3F_7	CF_3	CH	i-Pr	6-Cl	H	n-C_3F_7	CF_3	CH
t-Bu	6-Me	H	n-C_3F_7	CF_3	CH	t-Bu	6-Cl	H	n-C_3F_7	CF_3	CH
Me	6-Me	H	i-C_3F_7	CF_3	CH	Me	6-Cl	H	i-C_3F_7	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	H	i-C_3F_7	CF_3	CH	Et	6-Cl	H	i-C_3F_7	CF_3	CH
i-Pr	6-Me	H	i-C_3F_7	CF_3	CH	i-Pr	6-Cl	H	i-C_3F_7	CF_3	CH
t-Bu	6-Me	H	i-C_3F_7	CF_3	CH	t-Bu	6-Cl	H	i-C_3F_7	CF_3	CH
Me	6-Me	H	CN	CF_3	CH	Me	6-Cl	H	CN	CF_3	CH
Et	6-Me	H	CN	CF_3	CH	Et	6-Cl	H	CN	CF_3	CH
i-Pr	6-Me	H	CN	CF_3	CH	i-Pr	6-Cl	H	CN	CF_3	CH
t-Bu	6-Me	H	CN	CF_3	CH	t-Bu	6-Cl	H	CN	CF_3	CH
Me	6-Me	Cl	$OCHF_2$	F	CH	Me	6-Cl	Cl	$OCHF_2$	F	CH
Et	6-Me	Cl	$OCHF_2$	F	CH	Et	6-Cl	Cl	$OCHF_2$	F	CH
i-Pr	6-Me	Cl	$OCHF_2$	F	CH	i-Pr	6-Cl	Cl	$OCHF_2$	F	CH
t-Bu	6-Me	Cl	$OCHF_2$	F	CH	t-Bu	6-Cl	Cl	$OCHF_2$	F	CH
Me	6-Me	Cl	$SCHF_2$	F	CH	Me	6-Cl	Cl	$SCHF_2$	F	CH
Et	6-Me	Cl	$SCHF_2$	F	CH	Et	6-Cl	Cl	$SCHF_2$	F	CH
i-Pr	6-Me	Cl	$SCHF_2$	F	CH	i-Pr	6-Cl	Cl	$SCHF_2$	F	CH
t-Bu	6-Me	Cl	$SCHF_2$	F	CH	t-Bu	6-Cl	Cl	$SCHF_2$	F	CH
Me	6-Me	Cl	OCF_3	F	CH	Me	6-Cl	Cl	OCF_3	F	CH
Et	6-Me	Cl	OCF_3	F	CH	Et	6-Cl	Cl	OCF_3	F	CH
i-Pr	6-Me	Cl	OCF_3	F	CH	i-Pr	6-Cl	Cl	OCF_3	F	CH
t-Bu	6-Me	Cl	OCF_3	F	CH	t-Bu	6-Cl	Cl	OCF_3	F	CH
Me	6-Me	Cl	SCF_3	F	CH	Me	6-Cl	Cl	SCF_3	F	CH
Et	6-Me	Cl	SCF_3	F	CH	Et	6-Cl	Cl	SCF_3	F	CH
i-Pr	6-Me	Cl	SCF_3	F	CH	i-Pr	6-Cl	Cl	SCF_3	F	CH
t-Bu	6-Me	Cl	SCF_3	F	CH	t-Bu	6-Cl	Cl	SCF_3	F	CH
Me	6-Me	Cl	C_2F_5	F	CH	Me	6-Cl	Cl	C_2F_5	F	CH
Et	6-Me	Cl	C_2F_5	F	CH	Et	6-Cl	Cl	C_2F_5	F	CH
i-Pr	6-Me	Cl	C_2F_5	F	CH	i-Pr	6-Cl	Cl	C_2F_5	F	CH
t-Bu	6-Me	Cl	C_2F_5	F	CH	t-Bu	6-Cl	Cl	C_2F_5	F	CH
Me	6-Me	Cl	n-C_3F_7	F	CH	Me	6-Cl	Cl	n-C_3F_7	F	CH
Et	6-Me	Cl	n-C_3F_7	F	CH	Et	6-Cl	Cl	n-C_3F_7	F	CH
i-Pr	6-Me	Cl	n-C_3F_7	F	CH	i-Pr	6-Cl	Cl	n-C_3F_7	F	CH
t-Bu	6-Me	Cl	n-C_3F_7	F	CH	t-Bu	6-Cl	Cl	n-C_3F_7	F	CH
Me	6-Me	Cl	i-C_3F_7	F	CH	Me	6-Cl	Cl	i-C_3F_7	F	CH
Et	6-Me	Cl	i-C_3F_7	F	CH	Et	6-Cl	Cl	i-C_3F_7	F	CH
i-Pr	6-Me	Cl	i-C_3F_7	F	CH	i-Pr	6-Cl	Cl	i-C_3F_7	F	CH
t-Bu	6-Me	Cl	i-C_3F_7	F	CH	t-Bu	6-Cl	Cl	i-C_3F_7	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-Cl	Cl	CN	F	CH
Et	6-Me	Cl	CN	F	CH	Et	6-Cl	Cl	CN	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	Cl	CN	F	CH	*i*-Pr	6-Cl	Cl	CN	F	CH
t-Bu	6-Me	Cl	CN	F	CH	*t*-Bu	6-Cl	Cl	CN	F	CH
Me	6-Me	Cl	$OCHF_2$	Cl	CH	Me	6-Cl	Cl	$OCHF_2$	Cl	CH
Et	6-Me	Cl	$OCHF_2$	Cl	CH	Et	6-Cl	Cl	$OCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl	CH
Me	6-Me	Cl	$SCHF_2$	Cl	CH	Me	6-Cl	Cl	$SCHF_2$	Cl	CH
Et	6-Me	Cl	$SCHF_2$	Cl	CH	Et	6-Cl	Cl	$SCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl	CH
Me	6-Me	Cl	OCF_3	Cl	CH	Me	6-Cl	Cl	OCF_3	Cl	CH
Et	6-Me	Cl	OCF_3	Cl	CH	Et	6-Cl	Cl	OCF_3	Cl	CH
i-Pr	6-Me	Cl	OCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	OCF_3	Cl	CH
t-Bu	6-Me	Cl	OCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	OCF_3	Cl	CH
Me	6-Me	Cl	SCF_3	Cl	CH	Me	6-Cl	Cl	SCF_3	Cl	CH
Et	6-Me	Cl	SCF_3	Cl	CH	Et	6-Cl	Cl	SCF_3	Cl	CH
i-Pr	6-Me	Cl	SCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	SCF_3	Cl	CH
t-Bu	6-Me	Cl	SCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	SCF_3	Cl	CH
Me	6-Me	Cl	C_2F_5	Cl	CH	Me	6-Cl	Cl	C_2F_5	Cl	CH
Et	6-Me	Cl	C_2F_5	Cl	CH	Et	6-Cl	Cl	C_2F_5	Cl	CH
i-Pr	6-Me	Cl	C_2F_5	Cl	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Cl	CH
t-Bu	6-Me	Cl	C_2F_5	Cl	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Cl	CH
Me	6-Me	Cl	*n*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Et	6-Me	Cl	*n*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Me	6-Me	Cl	*i*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Et	6-Me	Cl	*i*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Me	6-Me	Cl	CN	Cl	CH	Me	6-Cl	Cl	CN	Cl	CH
Et	6-Me	Cl	CN	Cl	CH	Et	6-Cl	Cl	CN	Cl	CH
i-Pr	6-Me	Cl	CN	Cl	CH	*i*-Pr	6-Cl	Cl	CN	Cl	CH
t-Bu	6-Me	Cl	CN	Cl	CH	*t*-Bu	6-Cl	Cl	CN	Cl	CH
Me	6-Me	Cl	$OCHF_2$	Br	CH	Me	6-Cl	Cl	$OCHF_2$	Br	CH
Et	6-Me	Cl	$OCHF_2$	Br	CH	Et	6-Cl	Cl	$OCHF_2$	Br	CH
i-Pr	6-Me	Cl	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	Cl	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br	CH
Me	6-Me	Cl	$SCHF_2$	Br	CH	Me	6-Cl	Cl	$SCHF_2$	Br	CH
Et	6-Me	Cl	$SCHF_2$	Br	CH	Et	6-Cl	Cl	$SCHF_2$	Br	CH
i-Pr	6-Me	Cl	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br	CH
t-Bu	6-Me	Cl	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br	CH
Me	6-Me	Cl	OCF_3	Br	CH	Me	6-Cl	Cl	OCF_3	Br	CH
Et	6-Me	Cl	OCF_3	Br	CH	Et	6-Cl	Cl	OCF_3	Br	CH
i-Pr	6-Me	Cl	OCF_3	Br	CH	*i*-Pr	6-Cl	Cl	OCF_3	Br	CH
t-Bu	6-Me	Cl	OCF_3	Br	CH	*t*-Bu	6-Cl	Cl	OCF_3	Br	CH
Me	6-Me	Cl	SCF_3	Br	CH	Me	6-Cl	Cl	SCF_3	Br	CH
Et	6-Me	Cl	SCF_3	Br	CH	Et	6-Cl	Cl	SCF_3	Br	CH
i-Pr	6-Me	Cl	SCF_3	Br	CH	*i*-Pr	6-Cl	Cl	SCF_3	Br	CH
t-Bu	6-Me	Cl	SCF_3	Br	CH	*t*-Bu	6-Cl	Cl	SCF_3	Br	CH
Me	6-Me	Cl	C_2F_5	Br	CH	Me	6-Cl	Cl	C_2F_5	Br	CH
Et	6-Me	Cl	C_2F_5	Br	CH	Et	6-Cl	Cl	C_2F_5	Br	CH
i-Pr	6-Me	Cl	C_2F_5	Br	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Br	CH
t-Bu	6-Me	Cl	C_2F_5	Br	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Br	CH
Me	6-Me	Cl	*n*-C_3F_7	Br	CH	Me	6-Cl	Cl	*n*-C_3F_7	Br	CH
Et	6-Me	Cl	*n*-C_3F_7	Br	CH	Et	6-Cl	Cl	*n*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br	CH
Me	6-Me	Cl	*i*-C_3F_7	Br	CH	Me	6-Cl	Cl	*i*-C_3F_7	Br	CH
Et	6-Me	Cl	*i*-C_3F_7	Br	CH	Et	6-Cl	Cl	*i*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br	CH
Me	6-Me	Cl	CN	Br	CH	Me	6-Cl	Cl	CN	Br	CH
Et	6-Me	Cl	CN	Br	CH	Et	6-Cl	Cl	CN	Br	CH
i-Pr	6-Me	Cl	CN	Br	CH	*i*-Pr	6-Cl	Cl	CN	Br	CH
t-Bu	6-Me	Cl	CN	Br	CH	*t*-Bu	6-Cl	Cl	CN	Br	CH
Me	6-Me	Cl	$OCHF_2$	CF_3	CH	Me	6-Cl	Cl	$OCHF_2$	CF_3	CH
Et	6-Me	Cl	$OCHF_2$	CF_3	CH	Et	6-Cl	Cl	$OCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3	CH
Me	6-Me	Cl	$SCHF_2$	CF_3	CH	Me	6-Cl	Cl	$SCHF_2$	CF_3	CH
Et	6-Me	Cl	$SCHF_2$	CF_3	CH	Et	6-Cl	Cl	$SCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	Cl	OCF_3	CF_3	CH	Me	6-Cl	Cl	OCF_3	CF_3	CH
Et	6-Me	Cl	OCF_3	CF_3	CH	Et	6-Cl	Cl	OCF_3	CF_3	CH
i-Pr	6-Me	Cl	OCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	OCF_3	CF_3	CH
t-Bu	6-Me	Cl	OCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	OCF_3	CF_3	CH
Me	6-Me	Cl	SCF_3	CF_3	CH	Me	6-Cl	Cl	SCF_3	CF_3	CH
Et	6-Me	Cl	SCF_3	CF_3	CH	Et	6-Cl	Cl	SCF_3	CF_3	CH
i-Pr	6-Me	Cl	SCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	SCF_3	CF_3	CH
t-Bu	6-Me	Cl	SCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	SCF_3	CF_3	CH
Me	6-Me	Cl	C_2F_5	CF_3	CH	Me	6-Cl	Cl	C_2F_5	CF_3	CH
Et	6-Me	Cl	C_2F_5	CF_3	CH	Et	6-Cl	Cl	C_2F_5	CF_3	CH
i-Pr	6-Me	Cl	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3	CH
t-Bu	6-Me	Cl	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3	CH
Me	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Me	6-Me	Cl	*i*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*i*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Me	6-Me	Cl	CN	CF_3	CH	Me	6-Cl	Cl	CN	CF_3	CH
Et	6-Me	Cl	CN	CF_3	CH	Et	6-Cl	Cl	CN	CF_3	CH
i-Pr	6-Me	Cl	CN	CF_3	CH	*i*-Pr	6-Cl	Cl	CN	CF_3	CH
t-Bu	6-Me	Cl	CN	CF_3	CH	*t*-Bu	6-Cl	Cl	CN	CF_3	CH
Me	6-Me	H	$OCHF_2$	F	CF	Me	6-Cl	H	$OCHF_2$	F	CF
Et	6-Me	H	$OCHF_2$	F	CF	Et	6-Cl	H	$OCHF_2$	F	CF
i-Pr	6-Me	H	$OCHF_2$	F	CF	*i*-Pr	6-Cl	H	$OCHF_2$	F	CF
t-Bu	6-Me	H	$OCHF_2$	F	CF	*t*-Bu	6-Cl	H	$OCHF_2$	F	CF
Me	6-Me	H	$SCHF_2$	F	CF	Me	6-Cl	H	$SCHF_2$	F	CF
Et	6-Me	H	$SCHF_2$	F	CF	Et	6-Cl	H	$SCHF_2$	F	CF
i-Pr	6-Me	H	$SCHF_2$	F	CF	*i*-Pr	6-Cl	H	$SCHF_2$	F	CF
t-Bu	6-Me	H	$SCHF_2$	F	CF	*t*-Bu	6-Cl	H	$SCHF_2$	F	CF
Me	6-Me	H	OCF_3	F	CF	Me	6-Cl	H	OCF_3	F	CF
Et	6-Me	H	OCF_3	F	CF	Et	6-Cl	H	OCF_3	F	CF
i-Pr	6-Me	H	OCF_3	F	CF	*i*-Pr	6-Cl	H	OCF_3	F	CF
t-Bu	6-Me	H	OCF_3	F	CF	*t*-Bu	6-Cl	H	OCF_3	F	CF
Me	6-Me	H	SCF_3	F	CF	Me	6-Cl	H	SCF_3	F	CF

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	H	SCF_3	F	CF	Et	6-Cl	H	SCF_3	F	CF
i-Pr	6-Me	H	SCF_3	F	CF	*i*-Pr	6-Cl	H	SCF_3	F	CF
t-Bu	6-Me	H	SCF_3	F	CF	*t*-Bu	6-Cl	H	SCF_3	F	CF
Me	6-Me	H	C_2F_5	F	CF	Me	6-Cl	H	C_2F_5	F	CF
Et	6-Me	H	C_2F_5	F	CF	Et	6-Cl	H	C_2F_5	F	CF
i-Pr	6-Me	H	C_2F_5	F	CF	*i*-Pr	6-Cl	H	C_2F_5	F	CF
t-Bu	6-Me	H	C_2F_5	F	CF	*t*-Bu	6-Cl	H	C_2F_5	F	CF
Me	6-Me	H	*n*-C_3F_7	F	CF	Me	6-Cl	H	*n*-C_3F_7	F	CF
Et	6-Me	H	*n*-C_3F_7	F	CF	Et	6-Cl	H	*n*-C_3F_7	F	CF
i-Pr	6-Me	H	*n*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CF
t-Bu	6-Me	H	*n*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CF
Me	6-Me	H	*i*-C_3F_7	F	CF	Me	6-Cl	H	*i*-C_3F_7	F	CF
Et	6-Me	H	*i*-C_3F_7	F	CF	Et	6-Cl	H	*i*-C_3F_7	F	CF
i-Pr	6-Me	H	*i*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CF
t-Bu	6-Me	H	*i*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CF
Me	6-Me	H	CN	F	CF	Me	6-Cl	H	CN	F	CF
Et	6-Me	H	CN	F	CF	Et	6-Cl	H	CN	F	CF
i-Pr	6-Me	H	CN	F	CF	*i*-Pr	6-Cl	H	CN	F	CF
t-Bu	6-Me	H	CN	F	CF	*t*-Bu	6-Cl	H	CN	F	CF
Me	6-Me	H	$OCHF_2$	Cl	CCl	Me	6-Cl	H	$OCHF_2$	Cl	CCl
Et	6-Me	H	$OCHF_2$	Cl	CCl	Et	6-Cl	H	$OCHF_2$	Cl	CCl
i-Pr	6-Me	H	$OCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CCl
t-Bu	6-Me	H	$OCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CCl
Me	6-Me	H	$SCHF_2$	Cl	CCl	Me	6-Cl	H	$SCHF_2$	Cl	CCl
Et	6-Me	H	$SCHF_2$	Cl	CCl	Et	6-Cl	H	$SCHF_2$	Cl	CCl
i-Pr	6-Me	H	$SCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CCl
t-Bu	6-Me	H	$SCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CCl
Me	6-Me	H	OCF_3	Cl	CCl	Me	6-Cl	H	OCF_3	Cl	CCl
Et	6-Me	H	OCF_3	Cl	CCl	Et	6-Cl	H	OCF_3	Cl	CCl
i-Pr	6-Me	H	OCF_3	Cl	CCl	*i*-Pr	6-Cl	H	OCF_3	Cl	CCl
t-Bu	6-Me	H	OCF_3	Cl	CCl	*t*-Bu	6-Cl	H	OCF_3	Cl	CCl
Me	6-Me	H	SCF_3	Cl	CCl	Me	6-Cl	H	SCF_3	Cl	CCl
Et	6-Me	H	SCF_3	Cl	CCl	Et	6-Cl	H	SCF_3	Cl	CCl
i-Pr	6-Me	H	SCF_3	Cl	CCl	*i*-Pr	6-Cl	H	SCF_3	Cl	CCl
t-Bu	6-Me	H	SCF_3	Cl	CCl	*t*-Bu	6-Cl	H	SCF_3	Cl	CCl
Me	6-Me	H	C_2F_5	Cl	CCl	Me	6-Cl	H	C_2F_5	Cl	CCl
Et	6-Me	H	C_2F_5	Cl	CCl	Et	6-Cl	H	C_2F_5	Cl	CCl

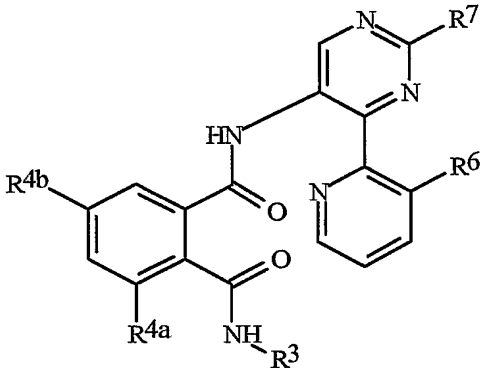
R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	H	C_2F_5	Cl	CCl	*i*-Pr	6-Cl	H	C_2F_5	Cl	CCl
t-Bu	6-Me	H	C_2F_5	Cl	CCl	*t*-Bu	6-Cl	H	C_2F_5	Cl	CCl
Me	6-Me	H	*n*-C_3F_7	Cl	CCl	Me	6-Cl	H	*n*-C_3F_7	Cl	CCl
Et	6-Me	H	*n*-C_3F_7	Cl	CCl	Et	6-Cl	H	*n*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CCl
Me	6-Me	H	*i*-C_3F_7	Cl	CCl	Me	6-Cl	H	*i*-C_3F_7	Cl	CCl
Et	6-Me	H	*i*-C_3F_7	Cl	CCl	Et	6-Cl	H	*i*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CCl
Me	6-Me	H	CN	Cl	CCl	Me	6-Cl	H	CN	Cl	CCl
Et	6-Me	H	CN	Cl	CCl	Et	6-Cl	H	CN	Cl	CCl
i-Pr	6-Me	H	CN	Cl	CCl	*i*-Pr	6-Cl	H	CN	Cl	CCl
t-Bu	6-Me	H	CN	Cl	CCl	*t*-Bu	6-Cl	H	CN	Cl	CCl
Me	3-Me	H	$OCHF_2$	F	CH	Me	3-Cl	H	$OCHF_2$	F	CH
Et	3-Me	H	$OCHF_2$	F	CH	Et	3-Cl	H	$OCHF_2$	F	CH
i-Pr	3-Me	H	$OCHF_2$	F	CH	*i*-Pr	3-Cl	H	$OCHF_2$	F	CH
t-Bu	3-Me	H	$OCHF_2$	F	CH	*t*-Bu	3-Cl	H	$OCHF_2$	F	CH
Me	3-Me	H	$SCHF_2$	F	CH	Me	3-Cl	H	$SCHF_2$	F	CH
Et	3-Me	H	$SCHF_2$	F	CH	Et	3-Cl	H	$SCHF_2$	F	CH
i-Pr	3-Me	H	$SCHF_2$	F	CH	*i*-Pr	3-Cl	H	$SCHF_2$	F	CH
t-Bu	3-Me	H	$SCHF_2$	F	CH	*t*-Bu	3-Cl	H	$SCHF_2$	F	CH
Me	3-Me	H	OCF_3	F	CH	Me	3-Cl	H	OCF_3	F	CH
Et	3-Me	H	OCF_3	F	CH	Et	3-Cl	H	OCF_3	F	CH
i-Pr	3-Me	H	OCF_3	F	CH	*i*-Pr	3-Cl	H	OCF_3	F	CH
t-Bu	3-Me	H	OCF_3	F	CH	*t*-Bu	3-Cl	H	OCF_3	F	CH
Me	3-Me	H	SCF_3	F	CH	Me	3-Cl	H	SCF_3	F	CH
Et	3-Me	H	SCF_3	F	CH	Et	3-Cl	H	SCF_3	F	CH
i-Pr	3-Me	H	SCF_3	F	CH	*i*-Pr	3-Cl	H	SCF_3	F	CH
t-Bu	3-Me	H	SCF_3	F	CH	*t*-Bu	3-Cl	H	SCF_3	F	CH
Me	3-Me	H	C_2F_5	F	CH	Me	3-Cl	H	C_2F_5	F	CH
Et	3-Me	H	C_2F_5	F	CH	Et	3-Cl	H	C_2F_5	F	CH
i-Pr	3-Me	H	C_2F_5	F	CH	*i*-Pr	3-Cl	H	C_2F_5	F	CH
t-Bu	3-Me	H	C_2F_5	F	CH	*t*-Bu	3-Cl	H	C_2F_5	F	CH
Me	3-Me	H	*n*-C_3F_7	F	CH	Me	3-Cl	H	*n*-C_3F_7	F	CH
Et	3-Me	H	*n*-C_3F_7	F	CH	Et	3-Cl	H	*n*-C_3F_7	F	CH
i-Pr	3-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	3-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	F	CH
Me	3-Me	H	*i*-C_3F_7	F	CH	Me	3-Cl	H	*i*-C_3F_7	F	CH
Et	3-Me	H	*i*-C_3F_7	F	CH	Et	3-Cl	H	*i*-C_3F_7	F	CH
i-Pr	3-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	F	CH
t-Bu	3-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	F	CH
Me	3-Me	H	CN	F	CH	Me	3-Cl	H	CN	F	CH
Et	3-Me	H	CN	F	CH	Et	3-Cl	H	CN	F	CH
i-Pr	3-Me	H	CN	F	CH	*i*-Pr	3-Cl	H	CN	F	CH
t-Bu	3-Me	H	CN	F	CH	*t*-Bu	3-Cl	H	CN	F	CH
Me	3-Me	H	$OCHF_2$	Cl	CH	Me	3-Cl	H	$OCHF_2$	Cl	CH
Et	3-Me	H	$OCHF_2$	Cl	CH	Et	3-Cl	H	$OCHF_2$	Cl	CH
i-Pr	3-Me	H	$OCHF_2$	Cl	CH	*i*-Pr	3-Cl	H	$OCHF_2$	Cl	CH
t-Bu	3-Me	H	$OCHF_2$	Cl	CH	*t*-Bu	3-Cl	H	$OCHF_2$	Cl	CH
Me	3-Me	H	$SCHF_2$	Cl	CH	Me	3-Cl	H	$SCHF_2$	Cl	CH
Et	3-Me	H	$SCHF_2$	Cl	CH	Et	3-Cl	H	$SCHF_2$	Cl	CH
i-Pr	3-Me	H	$SCHF_2$	Cl	CH	*i*-Pr	3-Cl	H	$SCHF_2$	Cl	CH
t-Bu	3-Me	H	$SCHF_2$	Cl	CH	*t*-Bu	3-Cl	H	$SCHF_2$	Cl	CH
Me	3-Me	H	OCF_3	Cl	CH	Me	3-Cl	H	OCF_3	Cl	CH
Et	3-Me	H	OCF_3	Cl	CH	Et	3-Cl	H	OCF_3	Cl	CH
i-Pr	3-Me	H	OCF_3	Cl	CH	*i*-Pr	3-Cl	H	OCF_3	Cl	CH
t-Bu	3-Me	H	OCF_3	Cl	CH	*t*-Bu	3-Cl	H	OCF_3	Cl	CH
Me	3-Me	H	SCF_3	Cl	CH	Me	3-Cl	H	SCF_3	Cl	CH
Et	3-Me	H	SCF_3	Cl	CH	Et	3-Cl	H	SCF_3	Cl	CH
i-Pr	3-Me	H	SCF_3	Cl	CH	*i*-Pr	3-Cl	H	SCF_3	Cl	CH
t-Bu	3-Me	H	SCF_3	Cl	CH	*t*-Bu	3-Cl	H	SCF_3	Cl	CH
Me	3-Me	H	C_2F_5	Cl	CH	Me	3-Cl	H	C_2F_5	Cl	CH
Et	3-Me	H	C_2F_5	Cl	CH	Et	3-Cl	H	C_2F_5	Cl	CH
i-Pr	3-Me	H	C_2F_5	Cl	CH	*i*-Pr	3-Cl	H	C_2F_5	Cl	CH
t-Bu	3-Me	H	C_2F_5	Cl	CH	*t*-Bu	3-Cl	H	C_2F_5	Cl	CH
Me	3-Me	H	*n*-C_3F_7	Cl	CH	Me	3-Cl	H	*n*-C_3F_7	Cl	CH
Et	3-Me	H	*n*-C_3F_7	Cl	CH	Et	3-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	3-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	3-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	Cl	CH
Me	3-Me	H	*i*-C_3F_7	Cl	CH	Me	3-Cl	H	*i*-C_3F_7	Cl	CH
Et	3-Me	H	*i*-C_3F_7	Cl	CH	Et	3-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	3-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	3-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	3-Me	H	CN	Cl	CH	Me	3-Cl	H	CN	Cl	CH
Et	3-Me	H	CN	Cl	CH	Et	3-Cl	H	CN	Cl	CH
i-Pr	3-Me	H	CN	Cl	CH	*i*-Pr	3-Cl	H	CN	Cl	CH
t-Bu	3-Me	H	CN	Cl	CH	*t*-Bu	3-Cl	H	CN	Cl	CH
Me	3-Me	H	$OCHF_2$	Br	CH	Me	3-Cl	H	$OCHF_2$	Br	CH
Et	3-Me	H	$OCHF_2$	Br	CH	Et	3-Cl	H	$OCHF_2$	Br	CH
i-Pr	3-Me	H	$OCHF_2$	Br	CH	*i*-Pr	3-Cl	H	$OCHF_2$	Br	CH
t-Bu	3-Me	H	$OCHF_2$	Br	CH	*t*-Bu	3-Cl	H	$OCHF_2$	Br	CH
Me	3-Me	H	$SCHF_2$	Br	CH	Me	3-Cl	H	$SCHF_2$	Br	CH
Et	3-Me	H	$SCHF_2$	Br	CH	Et	3-Cl	H	$SCHF_2$	Br	CH
i-Pr	3-Me	H	$SCHF_2$	Br	CH	*i*-Pr	3-Cl	H	$SCHF_2$	Br	CH
t-Bu	3-Me	H	$SCHF_2$	Br	CH	*t*-Bu	3-Cl	H	$SCHF_2$	Br	CH
Me	3-Me	H	OCF_3	Br	CH	Me	3-Cl	H	OCF_3	Br	CH
Et	3-Me	H	OCF_3	Br	CH	Et	3-Cl	H	OCF_3	Br	CH
i-Pr	3-Me	H	OCF_3	Br	CH	*i*-Pr	3-Cl	H	OCF_3	Br	CH
t-Bu	3-Me	H	OCF_3	Br	CH	*t*-Bu	3-Cl	H	OCF_3	Br	CH
Me	3-Me	H	SCF_3	Br	CH	Me	3-Cl	H	SCF_3	Br	CH
Et	3-Me	H	SCF_3	Br	CH	Et	3-Cl	H	SCF_3	Br	CH
i-Pr	3-Me	H	SCF_3	Br	CH	*i*-Pr	3-Cl	H	SCF_3	Br	CH
t-Bu	3-Me	H	SCF_3	Br	CH	*t*-Bu	3-Cl	H	SCF_3	Br	CH
Me	3-Me	H	C_2F_5	Br	CH	Me	3-Cl	H	C_2F_5	Br	CH
Et	3-Me	H	C_2F_5	Br	CH	Et	3-Cl	H	C_2F_5	Br	CH
i-Pr	3-Me	H	C_2F_5	Br	CH	*i*-Pr	3-Cl	H	C_2F_5	Br	CH
t-Bu	3-Me	H	C_2F_5	Br	CH	*t*-Bu	3-Cl	H	C_2F_5	Br	CH
Me	3-Me	H	*n*-C_3F_7	Br	CH	Me	3-Cl	H	*n*-C_3F_7	Br	CH
Et	3-Me	H	*n*-C_3F_7	Br	CH	Et	3-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	3-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	3-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	Br	CH
Me	3-Me	H	*i*-C_3F_7	Br	CH	Me	3-Cl	H	*i*-C_3F_7	Br	CH
Et	3-Me	H	*i*-C_3F_7	Br	CH	Et	3-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	3-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	3-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	Br	CH
Me	3-Me	H	CN	Br	CH	Me	3-Cl	H	CN	Br	CH
Et	3-Me	H	CN	Br	CH	Et	3-Cl	H	CN	Br	CH
i-Pr	3-Me	H	CN	Br	CH	*i*-Pr	3-Cl	H	CN	Br	CH
t-Bu	3-Me	H	CN	Br	CH	*t*-Bu	3-Cl	H	CN	Br	CH
Me	3-Me	H	$OCHF_2$	CF_3	CH	Me	3-Cl	H	$OCHF_2$	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	3-Me	H	$OCHF_2$	CF_3	CH	Et	3-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	3-Me	H	$OCHF_2$	CF_3	CH	*i*-Pr	3-Cl	H	$OCHF_2$	CF_3	CH
t-Bu	3-Me	H	$OCHF_2$	CF_3	CH	*t*-Bu	3-Cl	H	$OCHF_2$	CF_3	CH
Me	3-Me	H	$SCHF_2$	CF_3	CH	Me	3-Cl	H	$SCHF_2$	CF_3	CH
Et	3-Me	H	$SCHF_2$	CF_3	CH	Et	3-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	3-Me	H	$SCHF_2$	CF_3	CH	*i*-Pr	3-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	3-Me	H	$SCHF_2$	CF_3	CH	*t*-Bu	3-Cl	H	$SCHF_2$	CF_3	CH
Me	3-Me	H	OCF_3	CF_3	CH	Me	3-Cl	H	OCF_3	CF_3	CH
Et	3-Me	H	OCF_3	CF_3	CH	Et	3-Cl	H	OCF_3	CF_3	CH
i-Pr	3-Me	H	OCF_3	CF_3	CH	*i*-Pr	3-Cl	H	OCF_3	CF_3	CH
t-Bu	3-Me	H	OCF_3	CF_3	CH	*t*-Bu	3-Cl	H	OCF_3	CF_3	CH
Me	3-Me	H	SCF_3	CF_3	CH	Me	3-Cl	H	SCF_3	CF_3	CH
Et	3-Me	H	SCF_3	CF_3	CH	Et	3-Cl	H	SCF_3	CF_3	CH
i-Pr	3-Me	H	SCF_3	CF_3	CH	*i*-Pr	3-Cl	H	SCF_3	CF_3	CH
t-Bu	3-Me	H	SCF_3	CF_3	CH	*t*-Bu	3-Cl	H	SCF_3	CF_3	CH
Me	3-Me	H	C_2F_5	CF_3	CH	Me	3-Cl	H	C_2F_5	CF_3	CH
Et	3-Me	H	C_2F_5	CF_3	CH	Et	3-Cl	H	C_2F_5	CF_3	CH
i-Pr	3-Me	H	C_2F_5	CF_3	CH	*i*-Pr	3-Cl	H	C_2F_5	CF_3	CH
t-Bu	3-Me	H	C_2F_5	CF_3	CH	*t*-Bu	3-Cl	H	C_2F_5	CF_3	CH
Me	3-Me	H	*n*-C_3F_7	CF_3	CH	Me	3-Cl	H	*n*-C_3F_7	CF_3	CH
Et	3-Me	H	*n*-C_3F_7	CF_3	CH	Et	3-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	3-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	3-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	CF_3	CH
Me	3-Me	H	*i*-C_3F_7	CF_3	CH	Me	3-Cl	H	*i*-C_3F_7	CF_3	CH
Et	3-Me	H	*i*-C_3F_7	CF_3	CH	Et	3-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	3-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	3-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	CF_3	CH
Me	3-Me	H	CN	CF_3	CH	Me	3-Cl	H	CN	CF_3	CH
Et	3-Me	H	CN	CF_3	CH	Et	3-Cl	H	CN	CF_3	CH
i-Pr	3-Me	H	CN	CF_3	CH	*i*-Pr	3-Cl	H	CN	CF_3	CH
t-Bu	3-Me	H	CN	CF_3	CH	*t*-Bu	3-Cl	H	CN	CF_3	CH

Table 7



R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	F	CF_3	Me	Cl	Cl	F	CF_3	Me	Cl	Br	F	CF_3	Me	Cl
CH_3	F	CF_3	Et	Cl	Cl	F	CF_3	Et	Cl	Br	F	CF_3	Et	Cl
CH_3	F	CF_3	*i*-Pr	Cl	Cl	F	CF_3	*i*-Pr	Cl	Br	F	CF_3	*i*-Pr	Cl
CH_3	F	CF_3	*t*-Bu	Cl	Cl	F	CF_3	*t*-Bu	Cl	Br	F	CF_3	*t*-Bu	Cl
CH_3	F	CF_3	Me	Br	Cl	F	CF_3	Me	Br	Br	F	CF_3	Me	Br
CH_3	F	CF_3	Et	Br	Cl	F	CF_3	Et	Br	Br	F	CF_3	Et	Br
CH_3	F	CF_3	*i*-Pr	Br	Cl	F	CF_3	*i*-Pr	Br	Br	F	CF_3	*i*-Pr	Br
CH_3	F	CF_3	*t*-Bu	Br	Cl	F	CF_3	*t*-Bu	Br	Br	F	CF_3	*t*-Bu	Br
CH_3	F	Cl	Me	Cl	Cl	F	Cl	Me	Cl	Br	F	Cl	Me	Cl
CH_3	F	Cl	Et	Cl	Cl	F	Cl	Et	Cl	Br	F	Cl	Et	Cl
CH_3	F	Cl	*i*-Pr	Cl	Cl	F	Cl	*i*-Pr	Cl	Br	F	Cl	*i*-Pr	Cl
CH_3	F	Cl	*t*-Bu	Cl	Cl	F	Cl	*t*-Bu	Cl	Br	F	Cl	*t*-Bu	Cl
CH_3	F	Cl	Me	Br	Cl	F	Cl	Me	Br	Br	F	Cl	Me	Br
CH_3	F	Cl	Et	Br	Cl	F	Cl	Et	Br	Br	F	Cl	Et	Br
CH_3	F	Cl	*i*-Pr	Br	Cl	F	Cl	*i*-Pr	Br	Br	F	Cl	*i*-Pr	Br
CH_3	F	Cl	*t*-Bu	Br	Cl	F	Cl	*t*-Bu	Br	Br	F	Cl	*t*-Bu	Br
CH_3	F	Br	Me	Cl	Cl	F	Br	Me	Cl	Br	F	Br	Me	Cl
CH_3	F	Br	Et	Cl	Cl	F	Br	Et	Cl	Br	F	Br	Et	Cl
CH_3	F	Br	*i*-Pr	Cl	Cl	F	Br	*i*-Pr	Cl	Br	F	Br	*i*-Pr	Cl
CH_3	F	Br	*t*-Bu	Cl	Cl	F	Br	*t*-Bu	Cl	Br	F	Br	*t*-Bu	Cl
CH_3	F	Br	Me	Br	Cl	F	Br	Me	Br	Br	F	Br	Me	Br
CH_3	F	Br	Et	Br	Cl	F	Br	Et	Br	Br	F	Br	Et	Br
CH_3	F	Br	*i*-Pr	Br	Cl	F	Br	*i*-Pr	Br	Br	F	Br	*i*-Pr	Br
CH_3	F	Br	*t*-Bu	Br	Cl	F	Br	*t*-Bu	Br	Br	F	Br	*t*-Bu	Br
CH_3	Cl	CF_3	Me	Cl	Cl	Cl	CF_3	Me	Cl	Br	Cl	CF_3	Me	Cl
CH_3	Cl	CF_3	Et	Cl	Cl	Cl	CF_3	Et	Cl	Br	Cl	CF_3	Et	Cl

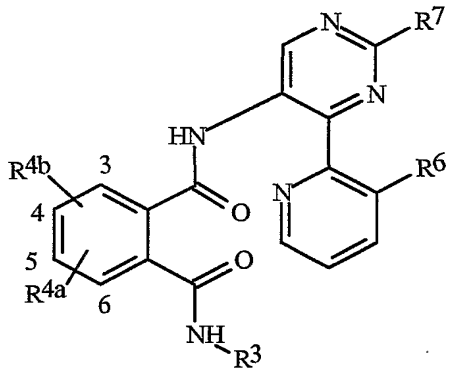
R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	Cl	CF_3	*i*-Pr	Cl	Cl	Cl	CF_3	*i*-Pr	Cl	Br	Cl	CF_3	*i*-Pr	Cl
CH_3	Cl	CF_3	*t*-Bu	Cl	Cl	Cl	CF_3	*t*-Bu	Cl	Br	Cl	CF_3	*t*-Bu	Cl
CH_3	Cl	CF_3	Me	Br	Cl	Cl	CF_3	Me	Br	Br	Cl	CF_3	Me	Br
CH_3	Cl	CF_3	Et	Br	Cl	Cl	CF_3	Et	Br	Br	Cl	CF_3	Et	Br
CH_3	Cl	CF_3	*i*-Pr	Br	Cl	Cl	CF_3	*i*-Pr	Br	Br	Cl	CF_3	*i*-Pr	Br
CH_3	Cl	CF_3	*t*-Bu	Br	Cl	Cl	CF_3	*t*-Bu	Br	Br	Cl	CF_3	*t*-Bu	Br
CH_3	Cl	Cl	Me	Cl	Cl	Cl	Cl	Me	Cl	Br	Cl	Cl	Me	Cl
CH_3	Cl	Cl	Et	Cl	Cl	Cl	Cl	Et	Cl	Br	Cl	Cl	Et	Cl
CH_3	Cl	Cl	*i*-Pr	Cl	Cl	Cl	Cl	*i*-Pr	Cl	Br	Cl	Cl	*i*-Pr	Cl
CH_3	Cl	Cl	*t*-Bu	Cl	Cl	Cl	Cl	*t*-Bu	Cl	Br	Cl	Cl	*t*-Bu	Cl
CH_3	Cl	Cl	Me	Br	Cl	Cl	Cl	Me	Br	Br	Cl	Cl	Me	Br
CH_3	Cl	Cl	Et	Br	Cl	Cl	Cl	Et	Br	Br	Cl	Cl	Et	Br
CH_3	Cl	Cl	*i*-Pr	Br	Cl	Cl	Cl	*i*-Pr	Br	Br	Cl	Cl	*i*-Pr	Br
CH_3	Cl	Cl	*t*-Bu	Br	Cl	Cl	Cl	*t*-Bu	Br	Br	Cl	Cl	*t*-Bu	Br
CH_3	Cl	Br	Me	Cl	Cl	Cl	Br	Me	Cl	Br	Cl	Br	Me	Cl
CH_3	Cl	Br	Et	Cl	Cl	Cl	Br	Et	Cl	Br	Cl	Br	Et	Cl
CH_3	Cl	Br	*i*-Pr	Cl	Cl	Cl	Br	*i*-Pr	Cl	Br	Cl	Br	*i*-Pr	Cl
CH_3	Cl	Br	*t*-Bu	Cl	Cl	Cl	Br	*t*-Bu	Cl	Br	Cl	Br	*t*-Bu	Cl
CH_3	Cl	Br	Me	Br	Cl	Cl	Br	Me	Br	Br	Cl	Br	Me	Br
CH_3	Cl	Br	Et	Br	Cl	Cl	Br	Et	Br	Br	Cl	Br	Et	Br
CH_3	Cl	Br	*i*-Pr	Br	Cl	Cl	Br	*i*-Pr	Br	Br	Cl	Br	*i*-Pr	Br
CH_3	Cl	Br	*t*-Bu	Br	Cl	Cl	Br	*t*-Bu	Br	Br	Cl	Br	*t*-Bu	Br
CH_3	Br	CF_3	Me	Cl	Cl	Br	CF_3	Me	Cl	Br	Br	CF_3	Me	Cl
CH_3	Br	CF_3	Et	Cl	Cl	Br	CF_3	Et	Cl	Br	Br	CF_3	Et	Cl
CH_3	Br	CF_3	*i*-Pr	Cl	Cl	Br	CF_3	*i*-Pr	Cl	Br	Br	CF_3	*i*-Pr	Cl
CH_3	Br	CF_3	*t*-Bu	Cl	Cl	Br	CF_3	*t*-Bu	Cl	Br	Br	CF_3	*t*-Bu	Cl
CH_3	Br	CF_3	Me	Br	Cl	Br	CF_3	Me	Br	Br	Br	CF_3	Me	Br
CH_3	Br	CF_3	Et	Br	Cl	Br	CF_3	Et	Br	Br	Br	CF_3	Et	Br
CH_3	Br	CF_3	*i*-Pr	Br	Cl	Br	CF_3	*i*-Pr	Br	Br	Br	CF_3	*i*-Pr	Br
CH_3	Br	CF_3	*t*-Bu	Br	Cl	Br	CF_3	*t*-Bu	Br	Br	Br	CF_3	*t*-Bu	Br
CH_3	Br	Cl	Me	Cl	Cl	Br	Cl	Me	Cl	Br	Br	Cl	Me	Cl
CH_3	Br	Cl	Et	Cl	Cl	Br	Cl	Et	Cl	Br	Br	Cl	Et	Cl
CH_3	Br	Cl	*i*-Pr	Cl	Cl	Br	Cl	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Cl
CH_3	Br	Cl	*t*-Bu	Cl	Cl	Br	Cl	*t*-Bu	Cl	Br	Br	Cl	*t*-Bu	Cl
CH_3	Br	Cl	Me	Br	Cl	H	CF_3	Me	Cl	Br	Br	Cl	Me	Br
CH_3	Br	Cl	Et	Br	Cl	H	CF_3	Et	Cl	Br	Br	Cl	Et	Br
CH_3	Br	Cl	*i*-Pr	Br	Cl	H	CF_3	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	Br	Cl	*t*-Bu	Br	Cl	H	CF_3	*t*-Bu	Cl	Br	Br	Cl	*t*-Bu	Br
CH_3	Br	Br	Me	Cl	Cl	H	CF_3	Me	Br	Br	Br	Br	Me	Cl
CH_3	Br	Br	Et	Cl	Cl	H	CF_3	Et	Br	Br	Br	Br	Et	Cl
CH_3	Br	Br	*i*-Pr	Cl	Cl	H	CF_3	*i*-Pr	Br	Br	Br	Br	*i*-Pr	Cl
CH_3	Br	Br	*t*-Bu	Cl	Cl	H	CF_3	*t*-Bu	Br	Br	Br	Br	*t*-Bu	Cl
CH_3	Br	Br	Me	Br	Cl	H	Cl	Me	Cl	Br	Br	Br	Me	Br
CH_3	Br	Br	Et	Br	Cl	H	Cl	Et	Cl	Br	Br	Br	Et	Br
CH_3	Br	Br	*i*-Pr	Br	Cl	H	Cl	*i*-Pr	Cl	Br	Br	Br	*i*-Pr	Br
CH_3	Br	Br	*t*-Bu	Br	Cl	H	Cl	*t*-Bu	Cl	Br	Br	Br	*t*-Bu	Br
CH_3	I	CF_3	Me	Cl	Cl	H	Cl	Me	Br	Br	I	CF_3	Me	Cl
CH_3	I	CF_3	Et	Cl	Cl	H	Cl	Et	Br	Br	I	CF_3	Et	Cl
CH_3	I	CF_3	*i*-Pr	Cl	Cl	H	Cl	*i*-Pr	Br	Br	I	CF_3	*i*-Pr	Cl
CH_3	I	CF_3	*t*-Bu	Cl	Cl	H	Cl	*t*-Bu	Br	Br	I	CF_3	*t*-Bu	Cl
CH_3	I	CF_3	Me	Br	Cl	H	Br	Me	Cl	Br	I	CF_3	Me	Br
CH_3	I	CF_3	Et	Br	Cl	H	Br	Et	Cl	Br	I	CF_3	Et	Br
CH_3	I	CF_3	*i*-Pr	Br	Cl	H	Br	*i*-Pr	Cl	Br	I	CF_3	*i*-Pr	Br
CH_3	I	CF_3	*t*-Bu	Br	Cl	H	Br	*t*-Bu	Cl	Br	I	CF_3	*t*-Bu	Br
CH_3	I	Cl	Me	Cl	Cl	H	Br	Me	Br	Br	I	Cl	Me	Cl
CH_3	I	Cl	Et	Cl	Cl	H	Br	Et	Br	Br	I	Cl	Et	Cl
CH_3	I	Cl	*i*-Pr	Cl	Cl	H	Br	*i*-Pr	Br	Br	I	Cl	*i*-Pr	Cl
CH_3	I	Cl	*t*-Bu	Cl	Cl	H	Br	*t*-Bu	Br	Br	I	Cl	*t*-Bu	Cl
CH_3	I	Cl	Me	Br	Cl	Br	Cl	Me	Br	Br	I	Cl	Me	Br
CH_3	I	Cl	Et	Br	Cl	Br	Cl	Et	Br	Br	I	Cl	Et	Br
CH_3	I	Cl	*i*-Pr	Br	Cl	Br	Cl	*i*-Pr	Br	Br	I	Cl	*i*-Pr	Br
CH_3	I	Cl	*t*-Bu	Br	Cl	Br	Cl	*t*-Bu	Br	Br	I	Cl	*t*-Bu	Br
CH_3	I	Br	Me	Cl	Cl	Br	Br	Me	Cl	Br	I	Br	Me	Cl
CH_3	I	Br	Et	Cl	Cl	Br	Br	Et	Cl	Br	I	Br	Et	Cl
CH_3	I	Br	*i*-Pr	Cl	Cl	Br	Br	*i*-Pr	Cl	Br	I	Br	*i*-Pr	Cl
CH_3	I	Br	*t*-Bu	Cl	Cl	Br	Br	*t*-Bu	Cl	Br	I	Br	*t*-Bu	Cl
CH_3	I	Br	Me	Br	Cl	Br	Br	Me	Br	Br	I	Br	Me	Br
CH_3	I	Br	Et	Br	Cl	Br	Br	Et	Br	Br	I	Br	Et	Br
CH_3	I	Br	*i*-Pr	Br	Cl	Br	Br	*i*-Pr	Br	Br	I	Br	*i*-Pr	Br
CH_3	I	Br	*t*-Bu	Br	Cl	Br	Br	*t*-Bu	Br	Br	I	Br	*t*-Bu	Br
CH_3	CF_3	CF_3	Me	Cl	Cl	I	CF_3	Me	Cl	Br	CF_3	CF_3	Me	Cl
CH_3	CF_3	CF_3	Et	Cl	Cl	I	CF_3	Et	Cl	Br	CF_3	CF_3	Et	Cl
CH_3	CF_3	CF_3	*i*-Pr	Cl	Cl	I	CF_3	*i*-Pr	Cl	Br	CF_3	CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_3	*t*-Bu	Cl	Cl	I	CF_3	*t*-Bu	Cl	Br	CF_3	CF_3	*t*-Bu	Cl

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	CF_3	CF_3	Me	Br	Cl	I	CF_3	Me	Br	Br	CF_3	CF_3	Me	Br
CH_3	CF_3	CF_3	Et	Br	Cl	I	CF_3	Et	Br	Br	CF_3	CF_3	Et	Br
CH_3	CF_3	CF_3	*i*-Pr	Br	Cl	I	CF_3	*i*-Pr	Br	Br	CF_3	CF_3	*i*-Pr	Br
CH_3	CF_3	CF_3	*t*-Bu	Br	Cl	I	CF_3	*t*-Bu	Br	Br	CF_3	CF_3	*t*-Bu	Br
CH_3	CF_3	Cl	Me	Cl	Cl	I	Cl	Me	Cl	Br	CF_3	Cl	Me	Cl
CH_3	CF_3	Cl	Et	Cl	Cl	I	Cl	Et	Cl	Br	CF_3	Cl	Et	Cl
CH_3	CF_3	Cl	*i*-Pr	Cl	Cl	I	Cl	*i*-Pr	Cl	Br	CF_3	Cl	*i*-Pr	Cl
CH_3	CF_3	Cl	*t*-Bu	Cl	Cl	I	Cl	*t*-Bu	Cl	Br	CF_3	Cl	*t*-Bu	Cl
CH_3	CF_3	Cl	Me	Br	Cl	I	Cl	Me	Br	Br	CF_3	Cl	Me	Br
CH_3	CF_3	Cl	Et	Br	Cl	I	Cl	Et	Br	Br	CF_3	Cl	Et	Br
CH_3	CF_3	Cl	*i*-Pr	Br	Cl	I	Cl	*i*-Pr	Br	Br	CF_3	Cl	*i*-Pr	Br
CH_3	CF_3	Cl	*t*-Bu	Br	Cl	I	Cl	*t*-Bu	Br	Br	CF_3	Cl	*t*-Bu	Br
CH_3	CF_3	Br	Me	Cl	Cl	I	Br	Me	Cl	Br	CF_3	Br	Me	Cl
CH_3	CF_3	Br	Et	Cl	Cl	I	Br	Et	Cl	Br	CF_3	Br	Et	Cl
CH_3	CF_3	Br	*i*-Pr	Cl	Cl	I	Br	*i*-Pr	Cl	Br	CF_3	Br	*i*-Pr	Cl
CH_3	CF_3	Br	*t*-Bu	Cl	Cl	I	Br	*t*-Bu	Cl	Br	CF_3	Br	*t*-Bu	Cl
CH_3	CF_3	Br	Me	Br	Cl	I	Br	Me	Br	Br	CF_3	Br	Me	Br
CH_3	CF_3	Br	Et	Br	Cl	I	Br	Et	Br	Br	CF_3	Br	Et	Br
CH_3	CF_3	Br	*i*-Pr	Br	Cl	I	Br	*i*-Pr	Br	Br	CF_3	Br	*i*-Pr	Br
CH_3	CF_3	Br	*t*-Bu	Br	Cl	I	Br	*t*-Bu	Br	Br	CF_3	Br	*t*-Bu	Br
CH_3	Cl	Cl	*n*-Pr	Cl	Cl	CF_3	CF_3	Me	Cl	I	Cl	CF_3	Me	Cl
CH_3	Cl	Cl	*n*-Bu	Cl	Cl	CF_3	CF_3	Et	Cl	I	Cl	CF_3	Et	Cl
CH_3	Cl	Cl	*s*-Bu	Cl	Cl	CF_3	CF_3	*i*-Pr	Cl	I	Cl	CF_3	*i*-Pr	Cl
CH_3	Cl	Cl	*i*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Cl	I	Cl	CF_3	*t*-Bu	Cl
CH_3	H	CF_3	Me	Cl	Cl	CF_3	CF_3	Me	Br	I	Cl	CF_3	Me	Br
CH_3	H	CF_3	Et	Cl	Cl	CF_3	CF_3	Et	Br	I	Cl	CF_3	Et	Br
CH_3	H	CF_3	*i*-Pr	Cl	Cl	CF_3	CF_3	*i*-Pr	Br	I	Cl	CF_3	*i*-Pr	Br
CH_3	H	CF_3	*t*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Br	I	Cl	CF_3	*t*-Bu	Br
CH_3	H	CF_3	Me	Br	Cl	CF_3	Cl	Me	Cl	I	Cl	Cl	Me	Cl
CH_3	H	CF_3	Et	Br	Cl	CF_3	Cl	Et	Cl	I	Cl	Cl	Et	Cl
CH_3	H	CF_3	*i*-Pr	Br	Cl	CF_3	Cl	*i*-Pr	Cl	I	Cl	Cl	*i*-Pr	Cl
CH_3	H	CF_3	*t*-Bu	Br	Cl	CF_3	Cl	*t*-Bu	Cl	I	Cl	Cl	*t*-Bu	Cl
CH_3	H	Cl	Me	Cl	Cl	CF_3	Cl	Me	Br	I	Cl	Cl	Me	Br
CH_3	H	Cl	Et	Cl	Cl	CF_3	Cl	Et	Br	I	Cl	Cl	Et	Br
CH_3	H	Cl	*i*-Pr	Cl	Cl	CF_3	Cl	*i*-Pr	Br	I	Cl	Cl	*i*-Pr	Br
CH_3	H	Cl	*t*-Bu	Cl	Cl	CF_3	Cl	*t*-Bu	Br	I	Cl	Cl	*t*-Bu	Br
CH_3	H	Cl	Me	Br	Cl	CF_3	Br	Me	Cl	I	Cl	Br	Me	Cl

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	H	Cl	Et	Br	Cl	CF_3	Br	Et	Cl	I	Cl	Br	Et	Cl
CH_3	H	Cl	*i*-Pr	Br	Cl	CF_3	Br	*i*-Pr	Cl	I	Cl	Br	*i*-Pr	Cl
CH_3	H	Cl	*t*-Bu	Br	Cl	CF_3	Br	*t*-Bu	Cl	I	Cl	Br	*t*-Bu	Cl
CH_3	H	Br	Me	Cl	Cl	CF_3	Br	Me	Br	I	Cl	Br	Me	Br
CH_3	H	Br	Et	Cl	Cl	CF_3	Br	Et	Br	I	Cl	Br	Et	Br
CH_3	H	Br	*i*-Pr	Cl	Cl	CF_3	Br	*i*-Pr	Br	I	Cl	Br	*i*-Pr	Br
CH_3	H	Br	*t*-Bu	Cl	Cl	CF_3	Br	*t*-Bu	Br	I	Cl	Br	*t*-Bu	Br
CH_3	H	Br	Me	Br	Cl	Cl	Cl	*n*-Pr	Cl	I	H	CF_3	Me	Cl
CH_3	H	Br	Et	Br	Cl	Cl	Cl	*n*-Bu	Cl	I	H	CF_3	Et	Cl
CH_3	H	Br	*i*-Pr	Br	Cl	Cl	Cl	*s*-Bu	Cl	I	H	CF_3	*i*-Pr	Cl
CH_3	H	Br	*t*-Bu	Br	Cl	Cl	Cl	*i*-Bu	Cl	I	H	CF_3	*t*-Bu	Cl

Table 8



R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	3-Me	H	CF_3	F	Me	3-Cl	H	CF_3	F
Et	3-Me	5-Me	OCF_3	F	Et	3-Cl	5-Me	OCF_3	F
i-Pr	3-Me	H	OCF_3	F	*i*-Pr	3-Cl	H	OCF_3	F
t-Bu	3-Me	5-Cl	Br	F	*t*-Bu	3-Cl	5-Cl	Br	F
Me	3-Me	H	Br	F	Me	3-Cl	H	Br	F
Et	3-Me	H	Cl	F	Et	3-Cl	H	Cl	F
i-Pr	3-Me	5-Br	Cl	F	*i*-Pr	3-Cl	5-Br	Cl	F
t-Bu	3-Me	H	I	F	*t*-Bu	3-Cl	H	I	F
propargyl	3-Me	H	CF_3	F	propargyl	3-Cl	H	CF_3	F
c-propyl	3-Me	H	OCF_3	F	*c*-propyl	3-Cl	H	OCF_3	F
i-Pr	3-Me	5-Cl	CF_3	F	*i*-Pr	3-Cl	5-Cl	CF_3	F
t-Bu	3-Me	H	SCF_3	F	t-Bu	3-Cl	H	SCF_3	F
Me	3-Me	5-Cl	$SCHF_2$	F	Me	3-Cl	5-Cl	$SCHF_2$	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	3-Me	H	$OCHF_2$	F	Et	3-Cl	H	$OCHF_2$	F
i-Pr	3-Me	H	CF_3	F	*i*-Pr	3-Cl	H	CF_3	F
t-Bu	3-Me	H	C_2F_5	F	*t*-Bu	3-Cl	H	C_2F_5	F
propargyl	3-Me	H	C_2F_5	F	propargyl	3-Cl	H	C_2F_5	F
c-propyl	3-Me	H	CF_3	F	*c*-propyl	3-Cl	H	CF_3	F
i-Pr	3-Me	H	Me	F	*i*-Pr	3-Cl	H	Me	F
t-Bu	3-Me	5-Br	CN	F	*t*-Bu	3-Cl	5-Br	CN	F
Me	3-Me	H	CF_3	Cl	Me	3-Cl	H	CF_3	Cl
Et	3-Me	5-Me	OCF_3	Cl	Et	3-Cl	5-Me	OCF_3	Cl
i-Pr	3-Me	H	OCF_3	Cl	*i*-Pr	3-Cl	H	OCF_3	Cl
t-Bu	3-Me	5-Cl	Br	Cl	*t*-Bu	3-Cl	5-Cl	Br	Cl
Me	3-Me	H	Br	Cl	Me	3-Cl	H	Br	Cl
Et	3-Me	H	Cl	Cl	Et	3-Cl	H	Cl	Cl
i-Pr	3-Me	5-Br	Cl	Cl	*i*-Pr	3-Cl	5-Br	Cl	Cl
t-Bu	3-Me	H	I	Cl	*t*-Bu	3-Cl	H	I	Cl
propargyl	3-Me	H	CF_3	Cl	propargyl	3-Cl	H	CF_3	Cl
c-propyl	3-Me	H	OCF_3	Cl	*c*-propyl	3-Cl	H	OCF_3	Cl
i-Pr	3-Me	5-Cl	CF_3	Cl	*i*-Pr	3-Cl	5-Cl	CF_3	Cl
t-Bu	3-Me	H	SCF_3	Cl	t-Bu	3-Cl	H	SCF_3	Cl
Me	3-Me	5-Cl	$SCHF_2$	Cl	Me	3-Cl	5-Cl	$SCHF_2$	Cl
Et	3-Me	H	$OCHF_2$	Cl	Et	3-Cl	H	$OCHF_2$	Cl
i-Pr	3-Me	H	CF_3	Cl	*i*-Pr	3-Cl	H	CF_3	Cl
t-Bu	3-Me	H	C_2F_5	Cl	*t*-Bu	3-Cl	H	C_2F_5	Cl
propargyl	3-Me	H	C_2F_5	Cl	propargyl	3-Cl	H	C_2F_5	Cl
c-propyl	3-Me	H	CF_3	Cl	*c*-propyl	3-Cl	H	CF_3	Cl
i-Pr	3-Me	H	Me	Cl	*i*-Pr	3-Cl	H	Me	Cl
t-Bu	3-Me	5-Br	CN	Cl	*t*-Bu	3-Cl	5-Br	CN	Cl
Me	3-Me	H	CF_3	CF_3	Me	3-Cl	H	CF_3	CF_3
Et	3-Me	5-Me	OCF_3	CF_3	Et	3-Cl	5-Me	OCF_3	CF_3
i-Pr	3-Me	H	OCF_3	CF_3	*i*-Pr	3-Cl	H	OCF_3	CF_3
t-Bu	3-Me	5-Cl	Br	CF_3	*t*-Bu	3-Cl	5-Cl	Br	CF_3
Me	3-Me	H	Br	CF_3	Me	3-Cl	H	Br	CF_3
Et	3-Me	H	Cl	CF_3	Et	3-Cl	H	Cl	CF_3
i-Pr	3-Me	5-Br	Cl	CF_3	*i*-Pr	3-Cl	5-Br	Cl	CF_3
t-Bu	3-Me	H	I	CF_3	*t*-Bu	3-Cl	H	I	CF_3
propargyl	3-Me	H	CF_3	CF_3	propargyl	3-Cl	H	CF_3	CF_3
c-propyl	3-Me	H	OCF_3	CF_3	*c*-propyl	3-Cl	H	OCF_3	CF_3

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	3-Me	5-Cl	CF_3	CF_3	*i*-Pr	3-Cl	5-Cl	CF_3	CF_3
t-Bu	3-Me	H	SCF_3	CF_3	t-Bu	3-Cl	H	SCF_3	CF_3
Me	3-Me	5-Cl	$SCHF_2$	CF_3	Me	3-Cl	5-Cl	$SCHF_2$	CF_3
Et	3-Me	H	$OCHF_2$	CF_3	Et	3-Cl	H	$OCHF_2$	CF_3
i-Pr	3-Me	H	CF_3	CF_3	*i*-Pr	3-Cl	H	CF_3	CF_3
t-Bu	3-Me	H	C_2F_5	CF_3	*t*-Bu	3-Cl	H	C_2F_5	CF_3
propargyl	3-Me	H	C_2F_5	CF_3	propargyl	3-Cl	H	C_2F_5	CF_3
c-propyl	3-Me	H	CF_3	CF_3	*c*-propyl	3-Cl	H	CF_3	CF_3
i-Pr	3-Me	H	Me	CF_3	*i*-Pr	3-Cl	H	Me	CF_3
t-Bu	3-Me	5-Br	CN	CF_3	*t*-Bu	3-Cl	5-Br	CN	CF_3
Me	3-Me	H	CF_3	Br	Me	3-Cl	H	CF_3	Br
Et	3-Me	5-Me	OCF_3	Br	Et	3-Cl	5-Me	OCF_3	Br
i-Pr	3-Me	H	OCF_3	Br	*i*-Pr	3-Cl	H	OCF_3	Br
t-Bu	3-Me	5-Cl	Br	Br	*t*-Bu	3-Cl	5-Cl	Br	Br
Me	3-Me	H	Br	Br	Me	3-Cl	H	Br	Br
Et	3-Me	H	Cl	Br	Et	3-Cl	H	Cl	Br
i-Pr	3-Me	5-Br	Cl	Br	*i*-Pr	3-Cl	5-Br	Cl	Br
t-Bu	3-Me	H	I	Br	*t*-Bu	3-Cl	H	I	Br
propargyl	3-Me	H	CF_3	Br	propargyl	3-Cl	H	CF_3	Br
c-propyl	3-Me	H	OCF_3	Br	*c*-propyl	3-Cl	H	OCF_3	Br
i-Pr	3-Me	5-Cl	CF_3	Br	*i*-Pr	3-Cl	5-Cl	CF_3	Br
t-Bu	3-Me	H	SCF_3	Br	t-Bu	3-Cl	H	SCF_3	Br
Me	3-Me	5-Cl	$SCHF_2$	Br	Me	3-Cl	5-Cl	$SCHF_2$	Br
Et	3-Me	H	$OCHF_2$	Br	Et	3-Cl	H	$OCHF_2$	Br
i-Pr	3-Me	H	CF_3	Br	*i*-Pr	3-Cl	H	CF_3	Br
t-Bu	3-Me	H	C_2F_5	Br	*t*-Bu	3-Cl	H	C_2F_5	Br
propargyl	3-Me	H	C_2F_5	Br	propargyl	3-Cl	H	C_2F_5	Br
c-propyl	3-Me	H	CF_3	Br	*c*-propyl	3-Cl	H	CF_3	Br
i-Pr	3-Me	H	Me	Br	*i*-Pr	3-Cl	H	Me	Br
t-Bu	3-Me	5-Br	CN	Br	*t*-Bu	3-Cl	5-Br	CN	Br
Me	6-Me	H	$OCHF_2$	F	Me	6-Cl	H	$OCHF_2$	F
Et	6-Me	H	$OCHF_2$	F	Et	6-Cl	H	$OCHF_2$	F
i-Pr	6-Me	H	$OCHF_2$	F	*i*-Pr	6-Cl	H	$OCHF_2$	F
t-Bu	6-Me	H	$OCHF_2$	F	*t*-Bu	6-Cl	H	$OCHF_2$	F
Me	6-Me	H	$SCHF_2$	F	Me	6-Cl	H	$SCHF_2$	F
Et	6-Me	H	$SCHF_2$	F	Et	6-Cl	H	$SCHF_2$	F
i-Pr	6-Me	H	$SCHF_2$	F	*i*-Pr	6-Cl	H	$SCHF_2$	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	6-Me	H	$SCHF_2$	F	*t*-Bu	6-Cl	H	$SCHF_2$	F
Me	6-Me	H	OCF_3	F	Me	6-Cl	H	OCF_3	F
Et	6-Me	H	OCF_3	F	Et	6-Cl	H	OCF_3	F
i-Pr	6-Me	H	OCF_3	F	*i*-Pr	6-Cl	H	OCF_3	F
t-Bu	6-Me	H	OCF_3	F	*t*-Bu	6-Cl	H	OCF_3	F
Me	6-Me	H	SCF_3	F	Me	6-Cl	H	SCF_3	F
Et	6-Me	H	SCF_3	F	Et	6-Cl	H	SCF_3	F
i-Pr	6-Me	H	SCF_3	F	*i*-Pr	6-Cl	H	SCF_3	F
t-Bu	6-Me	H	SCF_3	F	*t*-Bu	6-Cl	H	SCF_3	F
Me	6-Me	H	C_2F_5	F	Me	6-Cl	H	C_2F_5	F
Et	6-Me	H	C_2F_5	F	Et	6-Cl	H	C_2F_5	F
i-Pr	6-Me	H	C_2F_5	F	*i*-Pr	6-Cl	H	C_2F_5	F
t-Bu	6-Me	H	C_2F_5	F	*t*-Bu	6-Cl	H	C_2F_5	F
Me	6-Me	H	*n*-C_3F_7	F	Me	6-Cl	H	*n*-C_3F_7	F
Et	6-Me	H	*n*-C_3F_7	F	Et	6-Cl	H	*n*-C_3F_7	F
i-Pr	6-Me	H	*n*-C_3F_7	F	*i*-Pr	6-Cl	H	*n*-C_3F_7	F
t-Bu	6-Me	H	*n*-C_3F_7	F	*t*-Bu	6-Cl	H	*n*-C_3F_7	F
Me	6-Me	H	*i*-C_3F_7	F	Me	6-Cl	H	*i*-C_3F_7	F
Et	6-Me	H	*i*-C_3F_7	F	Et	6-Cl	H	*i*-C_3F_7	F
i-Pr	6-Me	H	*i*-C_3F_7	F	*i*-Pr	6-Cl	H	*i*-C_3F_7	F
t-Bu	6-Me	H	*i*-C_3F_7	F	*t*-Bu	6-Cl	H	*i*-C_3F_7	F
Me	6-Me	H	CN	F	Me	6-Cl	H	CN	F
Et	6-Me	H	CN	F	Et	6-Cl	H	CN	F
i-Pr	6-Me	H	CN	F	*i*-Pr	6-Cl	H	CN	F
t-Bu	6-Me	H	CN	F	*t*-Bu	6-Cl	H	CN	F
Me	6-Me	H	$OCHF_2$	Cl	Me	6-Cl	H	$OCHF_2$	Cl
Et	6-Me	H	$OCHF_2$	Cl	Et	6-Cl	H	$OCHF_2$	Cl
i-Pr	6-Me	H	$OCHF_2$	Cl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl
t-Bu	6-Me	H	$OCHF_2$	Cl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl
Me	6-Me	H	$SCHF_2$	Cl	Me	6-Cl	H	$SCHF_2$	Cl
Et	6-Me	H	$SCHF_2$	Cl	Et	6-Cl	H	$SCHF_2$	Cl
i-Pr	6-Me	H	$SCHF_2$	Cl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl
t-Bu	6-Me	H	$SCHF_2$	Cl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl
Me	6-Me	H	OCF_3	Cl	Me	6-Cl	H	OCF_3	Cl
Et	6-Me	H	OCF_3	Cl	Et	6-Cl	H	OCF_3	Cl
i-Pr	6-Me	H	OCF_3	Cl	*i*-Pr	6-Cl	H	OCF_3	Cl
t-Bu	6-Me	H	OCF_3	Cl	*t*-Bu	6-Cl	H	OCF_3	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	6-Me	H	SCF_3	Cl	Me	6-Cl	H	SCF_3	Cl
Et	6-Me	H	SCF_3	Cl	Et	6-Cl	H	SCF_3	Cl
i-Pr	6-Me	H	SCF_3	Cl	*i*-Pr	6-Cl	H	SCF_3	Cl
t-Bu	6-Me	H	SCF_3	Cl	*t*-Bu	6-Cl	H	SCF_3	Cl
Me	6-Me	H	C_2F_5	Cl	Me	6-Cl	H	C_2F_5	Cl
Et	6-Me	H	C_2F_5	Cl	Et	6-Cl	H	C_2F_5	Cl
i-Pr	6-Me	H	C_2F_5	Cl	*i*-Pr	6-Cl	H	C_2F_5	Cl
t-Bu	6-Me	H	C_2F_5	Cl	*t*-Bu	6-Cl	H	C_2F_5	Cl
Me	6-Me	H	*n*-C_3F_7	Cl	Me	6-Cl	H	*n*-C_3F_7	Cl
Et	6-Me	H	*n*-C_3F_7	Cl	Et	6-Cl	H	*n*-C_3F_7	Cl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl
Me	6-Me	H	*i*-C_3F_7	Cl	Me	6-Cl	H	*i*-C_3F_7	Cl
Et	6-Me	H	*i*-C_3F_7	Cl	Et	6-Cl	H	*i*-C_3F_7	Cl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl
Me	6-Me	H	CN	Cl	Me	6-Cl	H	CN	Cl
Et	6-Me	H	CN	Cl	Et	6-Cl	H	CN	Cl
i-Pr	6-Me	H	CN	Cl	*i*-Pr	6-Cl	H	CN	Cl
t-Bu	6-Me	H	CN	Cl	*t*-Bu	6-Cl	H	CN	Cl
Me	6-Me	H	$OCHF_2$	Br	Me	6-Cl	H	$OCHF_2$	Br
Et	6-Me	H	$OCHF_2$	Br	Et	6-Cl	H	$OCHF_2$	Br
i-Pr	6-Me	H	$OCHF_2$	Br	*i*-Pr	6-Cl	H	$OCHF_2$	Br
t-Bu	6-Me	H	$OCHF_2$	Br	*t*-Bu	6-Cl	H	$OCHF_2$	Br
Me	6-Me	H	$SCHF_2$	Br	Me	6-Cl	H	$SCHF_2$	Br
Et	6-Me	H	$SCHF_2$	Br	Et	6-Cl	H	$SCHF_2$	Br
i-Pr	6-Me	H	$SCHF_2$	Br	*i*-Pr	6-Cl	H	$SCHF_2$	Br
t-Bu	6-Me	H	$SCHF_2$	Br	*t*-Bu	6-Cl	H	$SCHF_2$	Br
Me	6-Me	H	OCF_3	Br	Me	6-Cl	H	OCF_3	Br
Et	6-Me	H	OCF_3	Br	Et	6-Cl	H	OCF_3	Br
i-Pr	6-Me	H	OCF_3	Br	*i*-Pr	6-Cl	H	OCF_3	Br
t-Bu	6-Me	H	OCF_3	Br	*t*-Bu	6-Cl	H	OCF_3	Br
Me	6-Me	H	SCF_3	Br	Me	6-Cl	H	SCF_3	Br
Et	6-Me	H	SCF_3	Br	Et	6-Cl	H	SCF_3	Br
i-Pr	6-Me	H	SCF_3	Br	*i*-Pr	6-Cl	H	SCF_3	Br
t-Bu	6-Me	H	SCF_3	Br	*t*-Bu	6-Cl	H	SCF_3	Br
Me	6-Me	H	C_2F_5	Br	Me	6-Cl	H	C_2F_5	Br

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	6-Me	H	C_2F_5	Br	Et	6-Cl	H	C_2F_5	Br
i-Pr	6-Me	H	C_2F_5	Br	*i*-Pr	6-Cl	H	C_2F_5	Br
t-Bu	6-Me	H	C_2F_5	Br	*t*-Bu	6-Cl	H	C_2F_5	Br
Me	6-Me	H	*n*-C_3F_7	Br	Me	6-Cl	H	*n*-C_3F_7	Br
Et	6-Me	H	*n*-C_3F_7	Br	Et	6-Cl	H	*n*-C_3F_7	Br
i-Pr	6-Me	H	*n*-C_3F_7	Br	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br
t-Bu	6-Me	H	*n*-C_3F_7	Br	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br
Me	6-Me	H	*i*-C_3F_7	Br	Me	6-Cl	H	*i*-C_3F_7	Br
Et	6-Me	H	*i*-C_3F_7	Br	Et	6-Cl	H	*i*-C_3F_7	Br
i-Pr	6-Me	H	*i*-C_3F_7	Br	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br
t-Bu	6-Me	H	*i*-C_3F_7	Br	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br
Me	6-Me	H	CN	Br	Me	6-Cl	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-Cl	H	CN	Br
i-Pr	6-Me	H	CN	Br	*i*-Pr	6-Cl	H	CN	Br
t-Bu	6-Me	H	CN	Br	*t*-Bu	6-Cl	H	CN	Br
Me	6-Me	H	$OCHF_2$	CF_3	Me	6-Cl	H	$OCHF_2$	CF_3
Et	6-Me	H	$OCHF_2$	CF_3	Et	6-Cl	H	$OCHF_2$	CF_3
i-Pr	6-Me	H	$OCHF_2$	CF_3	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3
t-Bu	6-Me	H	$OCHF_2$	CF_3	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3
Me	6-Me	H	$SCHF_2$	CF_3	Me	6-Cl	H	$SCHF_2$	CF_3
Et	6-Me	H	$SCHF_2$	CF_3	Et	6-Cl	H	$SCHF_2$	CF_3
i-Pr	6-Me	H	$SCHF_2$	CF_3	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3
t-Bu	6-Me	H	$SCHF_2$	CF_3	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3
Me	6-Me	H	OCF_3	CF_3	Me	6-Cl	H	OCF_3	CF_3
Et	6-Me	H	OCF_3	CF_3	Et	6-Cl	H	OCF_3	CF_3
i-Pr	6-Me	H	OCF_3	CF_3	*i*-Pr	6-Cl	H	OCF_3	CF_3
t-Bu	6-Me	H	OCF_3	CF_3	*t*-Bu	6-Cl	H	OCF_3	CF_3
Me	6-Me	H	SCF_3	CF_3	Me	6-Cl	H	SCF_3	CF_3
Et	6-Me	H	SCF_3	CF_3	Et	6-Cl	H	SCF_3	CF_3
i-Pr	6-Me	H	SCF_3	CF_3	*i*-Pr	6-Cl	H	SCF_3	CF_3
t-Bu	6-Me	H	SCF_3	CF_3	*t*-Bu	6-Cl	H	SCF_3	CF_3
Me	6-Me	H	C_2F_5	CF_3	Me	6-Cl	H	C_2F_5	CF_3
Et	6-Me	H	C_2F_5	CF_3	Et	6-Cl	H	C_2F_5	CF_3
i-Pr	6-Me	H	C_2F_5	CF_3	*i*-Pr	6-Cl	H	C_2F_5	CF_3
t-Bu	6-Me	H	C_2F_5	CF_3	*t*-Bu	6-Cl	H	C_2F_5	CF_3
Me	6-Me	H	*n*-C_3F_7	CF_3	Me	6-Cl	H	*n*-C_3F_7	CF_3
Et	6-Me	H	*n*-C_3F_7	CF_3	Et	6-Cl	H	*n*-C_3F_7	CF_3

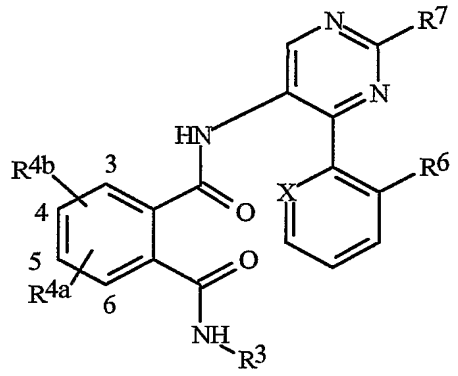
R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3
Me	6-Me	H	*i*-C_3F_7	CF_3	Me	6-Cl	H	*i*-C_3F_7	CF_3
Et	6-Me	H	*i*-C_3F_7	CF_3	Et	6-Cl	H	*i*-C_3F_7	CF_3
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3
Me	6-Me	H	CN	CF_3	Me	6-Cl	H	CN	CF_3
Et	6-Me	H	CN	CF_3	Et	6-Cl	H	CN	CF_3
i-Pr	6-Me	H	CN	CF_3	*i*-Pr	6-Cl	H	CN	CF_3
t-Bu	6-Me	H	CN	CF_3	*t*-Bu	6-Cl	H	CN	CF_3
Me	6-Me	Cl	$OCHF_2$	F	Me	6-Cl	Cl	$OCHF_2$	F
Et	6-Me	Cl	$OCHF_2$	F	Et	6-Cl	Cl	$OCHF_2$	F
i-Pr	6-Me	Cl	$OCHF_2$	F	*i*-Pr	6-Cl	Cl	$OCHF_2$	F
t-Bu	6-Me	Cl	$OCHF_2$	F	*t*-Bu	6-Cl	Cl	$OCHF_2$	F
Me	6-Me	Cl	$SCHF_2$	F	Me	6-Cl	Cl	$SCHF_2$	F
Et	6-Me	Cl	$SCHF_2$	F	Et	6-Cl	Cl	$SCHF_2$	F
i-Pr	6-Me	Cl	$SCHF_2$	F	*i*-Pr	6-Cl	Cl	$SCHF_2$	F
t-Bu	6-Me	Cl	$SCHF_2$	F	*t*-Bu	6-Cl	Cl	$SCHF_2$	F
Me	6-Me	Cl	OCF_3	F	Me	6-Cl	Cl	OCF_3	F
Et	6-Me	Cl	OCF_3	F	Et	6-Cl	Cl	OCF_3	F
i-Pr	6-Me	Cl	OCF_3	F	*i*-Pr	6-Cl	Cl	OCF_3	F
t-Bu	6-Me	Cl	OCF_3	F	*t*-Bu	6-Cl	Cl	OCF_3	F
Me	6-Me	Cl	SCF_3	F	Me	6-Cl	Cl	SCF_3	F
Et	6-Me	Cl	SCF_3	F	Et	6-Cl	Cl	SCF_3	F
i-Pr	6-Me	Cl	SCF_3	F	*i*-Pr	6-Cl	Cl	SCF_3	F
t-Bu	6-Me	Cl	SCF_3	F	*t*-Bu	6-Cl	Cl	SCF_3	F
Me	6-Me	Cl	C_2F_5	F	Me	6-Cl	Cl	C_2F_5	F
Et	6-Me	Cl	C_2F_5	F	Et	6-Cl	Cl	C_2F_5	F
i-Pr	6-Me	Cl	C_2F_5	F	*i*-Pr	6-Cl	Cl	C_2F_5	F
t-Bu	6-Me	Cl	C_2F_5	F	*t*-Bu	6-Cl	Cl	C_2F_5	F
Me	6-Me	Cl	*n*-C_3F_7	F	Me	6-Cl	Cl	*n*-C_3F_7	F
Et	6-Me	Cl	*n*-C_3F_7	F	Et	6-Cl	Cl	*n*-C_3F_7	F
i-Pr	6-Me	Cl	*n*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F
t-Bu	6-Me	Cl	*n*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F
Me	6-Me	Cl	*i*-C_3F_7	F	Me	6-Cl	Cl	*i*-C_3F_7	F
Et	6-Me	Cl	*i*-C_3F_7	F	Et	6-Cl	Cl	*i*-C_3F_7	F
i-Pr	6-Me	Cl	*i*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	6-Me	Cl	*i*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F
Me	6-Me	Cl	CN	F	Me	6-Cl	Cl	CN	F
Et	6-Me	Cl	CN	F	Et	6-Cl	Cl	CN	F
i-Pr	6-Me	Cl	CN	F	*i*-Pr	6-Cl	Cl	CN	F
t-Bu	6-Me	Cl	CN	F	*t*-Bu	6-Cl	Cl	CN	F
Me	6-Me	Cl	$OCHF_2$	Cl	Me	6-Cl	Cl	$OCHF_2$	Cl
Et	6-Me	Cl	$OCHF_2$	Cl	Et	6-Cl	Cl	$OCHF_2$	Cl
i-Pr	6-Me	Cl	$OCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl
t-Bu	6-Me	Cl	$OCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl
Me	6-Me	Cl	$SCHF_2$	Cl	Me	6-Cl	Cl	$SCHF_2$	Cl
Et	6-Me	Cl	$SCHF_2$	Cl	Et	6-Cl	Cl	$SCHF_2$	Cl
i-Pr	6-Me	Cl	$SCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl
t-Bu	6-Me	Cl	$SCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl
Me	6-Me	Cl	OCF_3	Cl	Me	6-Cl	Cl	OCF_3	Cl
Et	6-Me	Cl	OCF_3	Cl	Et	6-Cl	Cl	OCF_3	Cl
i-Pr	6-Me	Cl	OCF_3	Cl	*i*-Pr	6-Cl	Cl	OCF_3	Cl
t-Bu	6-Me	Cl	OCF_3	Cl	*t*-Bu	6-Cl	Cl	OCF_3	Cl
Me	6-Me	Cl	SCF_3	Cl	Me	6-Cl	Cl	SCF_3	Cl
Et	6-Me	Cl	SCF_3	Cl	Et	6-Cl	Cl	SCF_3	Cl
i-Pr	6-Me	Cl	SCF_3	Cl	*i*-Pr	6-Cl	Cl	SCF_3	Cl
t-Bu	6-Me	Cl	SCF_3	Cl	*t*-Bu	6-Cl	Cl	SCF_3	Cl
Me	6-Me	Cl	C_2F_5	Cl	Me	6-Cl	Cl	C_2F_5	Cl
Et	6-Me	Cl	C_2F_5	Cl	Et	6-Cl	Cl	C_2F_5	Cl
i-Pr	6-Me	Cl	C_2F_5	Cl	*i*-Pr	6-Cl	Cl	C_2F_5	Cl
t-Bu	6-Me	Cl	C_2F_5	Cl	*t*-Bu	6-Cl	Cl	C_2F_5	Cl
Me	6-Me	Cl	*n*-C_3F_7	Cl	Me	6-Cl	Cl	*n*-C_3F_7	Cl
Et	6-Me	Cl	*n*-C_3F_7	Cl	Et	6-Cl	Cl	*n*-C_3F_7	Cl
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl
Me	6-Me	Cl	*i*-C_3F_7	Cl	Me	6-Cl	Cl	*i*-C_3F_7	Cl
Et	6-Me	Cl	*i*-C_3F_7	Cl	Et	6-Cl	Cl	*i*-C_3F_7	Cl
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl
Me	6-Me	Cl	CN	Cl	Me	6-Cl	Cl	CN	Cl
Et	6-Me	Cl	CN	Cl	Et	6-Cl	Cl	CN	Cl
i-Pr	6-Me	Cl	CN	Cl	*i*-Pr	6-Cl	Cl	CN	Cl
t-Bu	6-Me	Cl	CN	Cl	*t*-Bu	6-Cl	Cl	CN	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	6-Me	Cl	$OCHF_2$	Br	Me	6-Cl	Cl	$OCHF_2$	Br
Et	6-Me	Cl	$OCHF_2$	Br	Et	6-Cl	Cl	$OCHF_2$	Br
i-Pr	6-Me	Cl	$OCHF_2$	Br	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br
t-Bu	6-Me	Cl	$OCHF_2$	Br	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br
Me	6-Me	Cl	$SCHF_2$	Br	Me	6-Cl	Cl	$SCHF_2$	Br
Et	6-Me	Cl	$SCHF_2$	Br	Et	6-Cl	Cl	$SCHF_2$	Br
i-Pr	6-Me	Cl	$SCHF_2$	Br	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br
t-Bu	6-Me	Cl	$SCHF_2$	Br	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br
Me	6-Me	Cl	OCF_3	Br	Me	6-Cl	Cl	OCF_3	Br
Et	6-Me	Cl	OCF_3	Br	Et	6-Cl	Cl	OCF_3	Br
i-Pr	6-Me	Cl	OCF_3	Br	*i*-Pr	6-Cl	Cl	OCF_3	Br
t-Bu	6-Me	Cl	OCF_3	Br	*t*-Bu	6-Cl	Cl	OCF_3	Br
Me	6-Me	Cl	SCF_3	Br	Me	6-Cl	Cl	SCF_3	Br
Et	6-Me	Cl	SCF_3	Br	Et	6-Cl	Cl	SCF_3	Br
i-Pr	6-Me	Cl	SCF_3	Br	*i*-Pr	6-Cl	Cl	SCF_3	Br
t-Bu	6-Me	Cl	SCF_3	Br	*t*-Bu	6-Cl	Cl	SCF_3	Br
Me	6-Me	Cl	C_2F_5	Br	Me	6-Cl	Cl	C_2F_5	Br
Et	6-Me	Cl	C_2F_5	Br	Et	6-Cl	Cl	C_2F_5	Br
i-Pr	6-Me	Cl	C_2F_5	Br	*i*-Pr	6-Cl	Cl	C_2F_5	Br
t-Bu	6-Me	Cl	C_2F_5	Br	*t*-Bu	6-Cl	Cl	C_2F_5	Br
Me	6-Me	Cl	*n*-C_3F_7	Br	Me	6-Cl	Cl	*n*-C_3F_7	Br
Et	6-Me	Cl	*n*-C_3F_7	Br	Et	6-Cl	Cl	*n*-C_3F_7	Br
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br
Me	6-Me	Cl	*i*-C_3F_7	Br	Me	6-Cl	Cl	*i*-C_3F_7	Br
Et	6-Me	Cl	*i*-C_3F_7	Br	Et	6-Cl	Cl	*i*-C_3F_7	Br
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br
Me	6-Me	Cl	CN	Br	Me	6-Cl	Cl	CN	Br
Et	6-Me	Cl	CN	Br	Et	6-Cl	Cl	CN	Br
i-Pr	6-Me	Cl	CN	Br	*i*-Pr	6-Cl	Cl	CN	Br
t-Bu	6-Me	Cl	CN	Br	*t*-Bu	6-Cl	Cl	CN	Br
Me	6-Me	Cl	$OCHF_2$	CF_3	Me	6-Cl	Cl	$OCHF_2$	CF_3
Et	6-Me	Cl	$OCHF_2$	CF_3	Et	6-Cl	Cl	$OCHF_2$	CF_3
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3
Me	6-Me	Cl	$SCHF_2$	CF_3	Me	6-Cl	Cl	$SCHF_2$	CF_3

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	6-Me	Cl	$SCHF_2$	CF_3	Et	6-Cl	Cl	$SCHF_2$	CF_3
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3
Me	6-Me	Cl	OCF_3	CF_3	Me	6-Cl	Cl	OCF_3	CF_3
Et	6-Me	Cl	OCF_3	CF_3	Et	6-Cl	Cl	OCF_3	CF_3
i-Pr	6-Me	Cl	OCF_3	CF_3	*i*-Pr	6-Cl	Cl	OCF_3	CF_3
t-Bu	6-Me	Cl	OCF_3	CF_3	*t*-Bu	6-Cl	Cl	OCF_3	CF_3
Me	6-Me	Cl	SCF_3	CF_3	Me	6-Cl	Cl	SCF_3	CF_3
Et	6-Me	Cl	SCF_3	CF_3	Et	6-Cl	Cl	SCF_3	CF_3
i-Pr	6-Me	Cl	SCF_3	CF_3	*i*-Pr	6-Cl	Cl	SCF_3	CF_3
t-Bu	6-Me	Cl	SCF_3	CF_3	*t*-Bu	6-Cl	Cl	SCF_3	CF_3
Me	6-Me	Cl	C_2F_5	CF_3	Me	6-Cl	Cl	C_2F_5	CF_3
Et	6-Me	Cl	C_2F_5	CF_3	Et	6-Cl	Cl	C_2F_5	CF_3
i-Pr	6-Me	Cl	C_2F_5	CF_3	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3
t-Bu	6-Me	Cl	C_2F_5	CF_3	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3
Me	6-Me	Cl	*n*-C_3F_7	CF_3	Me	6-Cl	Cl	*n*-C_3F_7	CF_3
Et	6-Me	Cl	*n*-C_3F_7	CF_3	Et	6-Cl	Cl	*n*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3
Me	6-Me	Cl	*i*-C_3F_7	CF_3	Me	6-Cl	Cl	*i*-C_3F_7	CF_3
Et	6-Me	Cl	*i*-C_3F_7	CF_3	Et	6-Cl	Cl	*i*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3
Me	6-Me	Cl	CN	CF_3	Me	6-Cl	Cl	CN	CF_3
Et	6-Me	Cl	CN	CF_3	Et	6-Cl	Cl	CN	CF_3
i-Pr	6-Me	Cl	CN	CF_3	*i*-Pr	6-Cl	Cl	CN	CF_3
t-Bu	6-Me	Cl	CN	CF_3	*t*-Bu	6-Cl	Cl	CN	CF_3

Table 9



R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	$OCHF_2$	F	CH	Me	6-Cl	H	$OCHF_2$	F	CH
Et	6-Me	H	$OCHF_2$	F	CH	Et	6-Cl	H	$OCHF_2$	F	CH
i-Pr	6-Me	H	$OCHF_2$	F	CH	*i*-Pr	6-Cl	H	$OCHF_2$	F	CH
t-Bu	6-Me	H	$OCHF_2$	F	CH	*t*-Bu	6-Cl	H	$OCHF_2$	F	CH
Me	6-Me	H	$SCHF_2$	F	CH	Me	6-Cl	H	$SCHF_2$	F	CH
Et	6-Me	H	$SCHF_2$	F	CH	Et	6-Cl	H	$SCHF_2$	F	CH
i-Pr	6-Me	H	$SCHF_2$	F	CH	*i*-Pr	6-Cl	H	$SCHF_2$	F	CH
t-Bu	6-Me	H	$SCHF_2$	F	CH	*t*-Bu	6-Cl	H	$SCHF_2$	F	CH
Me	6-Me	H	OCF_3	F	CH	Me	6-Cl	H	OCF_3	F	CH
Et	6-Me	H	OCF_3	F	CH	Et	6-Cl	H	OCF_3	F	CH
i-Pr	6-Me	H	OCF_3	F	CH	*i*-Pr	6-Cl	H	OCF_3	F	CH
t-Bu	6-Me	H	OCF_3	F	CH	*t*-Bu	6-Cl	H	OCF_3	F	CH
Me	6-Me	H	SCF_3	F	CH	Me	6-Cl	H	SCF_3	F	CH
Et	6-Me	H	SCF_3	F	CH	Et	6-Cl	H	SCF_3	F	CH
i-Pr	6-Me	H	SCF_3	F	CH	*i*-Pr	6-Cl	H	SCF_3	F	CH
t-Bu	6-Me	H	SCF_3	F	CH	*t*-Bu	6-Cl	H	SCF_3	F	CH
Me	6-Me	H	C_2F_5	F	CH	Me	6-Cl	H	C_2F_5	F	CH
Et	6-Me	H	C_2F_5	F	CH	Et	6-Cl	H	C_2F_5	F	CH
i-Pr	6-Me	H	C_2F_5	F	CH	*i*-Pr	6-Cl	H	C_2F_5	F	CH
t-Bu	6-Me	H	C_2F_5	F	CH	*t*-Bu	6-Cl	H	C_2F_5	F	CH
Me	6-Me	H	*n*-C_3F_7	F	CH	Me	6-Cl	H	*n*-C_3F_7	F	CH
Et	6-Me	H	*n*-C_3F_7	F	CH	Et	6-Cl	H	*n*-C_3F_7	F	CH
i-Pr	6-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CH
t-Bu	6-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CH
Me	6-Me	H	*i*-C_3F_7	F	CH	Me	6-Cl	H	*i*-C_3F_7	F	CH
Et	6-Me	H	*i*-C_3F_7	F	CH	Et	6-Cl	H	*i*-C_3F_7	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CH
t-Bu	6-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CH
Me	6-Me	H	CN	F	CH	Me	6-Cl	H	CN	F	CH
Et	6-Me	H	CN	F	CH	Et	6-Cl	H	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	*i*-Pr	6-Cl	H	CN	F	CH
t-Bu	6-Me	H	CN	F	CH	*t*-Bu	6-Cl	H	CN	F	CH
Me	6-Me	H	$OCHF_2$	Cl	CH	Me	6-Cl	H	$OCHF_2$	Cl	CH
Et	6-Me	H	$OCHF_2$	Cl	CH	Et	6-Cl	H	$OCHF_2$	Cl	CH
i-Pr	6-Me	H	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CH
t-Bu	6-Me	H	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CH
Me	6-Me	H	$SCHF_2$	Cl	CH	Me	6-Cl	H	$SCHF_2$	Cl	CH
Et	6-Me	H	$SCHF_2$	Cl	CH	Et	6-Cl	H	$SCHF_2$	Cl	CH
i-Pr	6-Me	H	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CH
t-Bu	6-Me	H	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CH
Me	6-Me	H	OCF_3	Cl	CH	Me	6-Cl	H	OCF_3	Cl	CH
Et	6-Me	H	OCF_3	Cl	CH	Et	6-Cl	H	OCF_3	Cl	CH
i-Pr	6-Me	H	OCF_3	Cl	CH	*i*-Pr	6-Cl	H	OCF_3	Cl	CH
t-Bu	6-Me	H	OCF_3	Cl	CH	*t*-Bu	6-Cl	H	OCF_3	Cl	CH
Me	6-Me	H	SCF_3	Cl	CH	Me	6-Cl	H	SCF_3	Cl	CH
Et	6-Me	H	SCF_3	Cl	CH	Et	6-Cl	H	SCF_3	Cl	CH
i-Pr	6-Me	H	SCF_3	Cl	CH	*i*-Pr	6-Cl	H	SCF_3	Cl	CH
t-Bu	6-Me	H	SCF_3	Cl	CH	*t*-Bu	6-Cl	H	SCF_3	Cl	CH
Me	6-Me	H	C_2F_5	Cl	CH	Me	6-Cl	H	C_2F_5	Cl	CH
Et	6-Me	H	C_2F_5	Cl	CH	Et	6-Cl	H	C_2F_5	Cl	CH
i-Pr	6-Me	H	C_2F_5	Cl	CH	*i*-Pr	6-Cl	H	C_2F_5	Cl	CH
t-Bu	6-Me	H	C_2F_5	Cl	CH	*t*-Bu	6-Cl	H	C_2F_5	Cl	CH
Me	6-Me	H	*n*-C_3F_7	Cl	CH	Me	6-Cl	H	*n*-C_3F_7	Cl	CH
Et	6-Me	H	*n*-C_3F_7	Cl	CH	Et	6-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CH
Me	6-Me	H	*i*-C_3F_7	Cl	CH	Me	6-Cl	H	*i*-C_3F_7	Cl	CH
Et	6-Me	H	*i*-C_3F_7	Cl	CH	Et	6-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CH
Me	6-Me	H	CN	Cl	CH	Me	6-Cl	H	CN	Cl	CH
Et	6-Me	H	CN	Cl	CH	Et	6-Cl	H	CN	Cl	CH
i-Pr	6-Me	H	CN	Cl	CH	*i*-Pr	6-Cl	H	CN	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	H	CN	Cl	CH	*t*-Bu	6-Cl	H	CN	Cl	CH
Me	6-Me	H	$OCHF_2$	Br	CH	Me	6-Cl	H	$OCHF_2$	Br	CH
Et	6-Me	H	$OCHF_2$	Br	CH	Et	6-Cl	H	$OCHF_2$	Br	CH
i-Pr	6-Me	H	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Br	CH
t-Bu	6-Me	H	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Br	CH
Me	6-Me	H	$SCHF_2$	Br	CH	Me	6-Cl	H	$SCHF_2$	Br	CH
Et	6-Me	H	$SCHF_2$	Br	CH	Et	6-Cl	H	$SCHF_2$	Br	CH
i-Pr	6-Me	H	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Br	CH
t-Bu	6-Me	H	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Br	CH
Me	6-Me	H	OCF_3	Br	CH	Me	6-Cl	H	OCF_3	Br	CH
Et	6-Me	H	OCF_3	Br	CH	Et	6-Cl	H	OCF_3	Br	CH
i-Pr	6-Me	H	OCF_3	Br	CH	*i*-Pr	6-Cl	H	OCF_3	Br	CH
t-Bu	6-Me	H	OCF_3	Br	CH	*t*-Bu	6-Cl	H	OCF_3	Br	CH
Me	6-Me	H	SCF_3	Br	CH	Me	6-Cl	H	SCF_3	Br	CH
Et	6-Me	H	SCF_3	Br	CH	Et	6-Cl	H	SCF_3	Br	CH
i-Pr	6-Me	H	SCF_3	Br	CH	*i*-Pr	6-Cl	H	SCF_3	Br	CH
t-Bu	6-Me	H	SCF_3	Br	CH	*t*-Bu	6-Cl	H	SCF_3	Br	CH
Me	6-Me	H	C_2F_5	Br	CH	Me	6-Cl	H	C_2F_5	Br	CH
Et	6-Me	H	C_2F_5	Br	CH	Et	6-Cl	H	C_2F_5	Br	CH
i-Pr	6-Me	H	C_2F_5	Br	CH	*i*-Pr	6-Cl	H	C_2F_5	Br	CH
t-Bu	6-Me	H	C_2F_5	Br	CH	*t*-Bu	6-Cl	H	C_2F_5	Br	CH
Me	6-Me	H	*n*-C_3F_7	Br	CH	Me	6-Cl	H	*n*-C_3F_7	Br	CH
Et	6-Me	H	*n*-C_3F_7	Br	CH	Et	6-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	6-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	6-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br	CH
Me	6-Me	H	*i*-C_3F_7	Br	CH	Me	6-Cl	H	*i*-C_3F_7	Br	CH
Et	6-Me	H	*i*-C_3F_7	Br	CH	Et	6-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	6-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	6-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-Cl	H	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-Cl	H	CN	Br	CH
i-Pr	6-Me	H	CN	Br	CH	*i*-Pr	6-Cl	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	*t*-Bu	6-Cl	H	CN	Br	CH
Me	6-Me	H	$OCHF_2$	CF_3	CH	Me	6-Cl	H	$OCHF_2$	CF_3	CH
Et	6-Me	H	$OCHF_2$	CF_3	CH	Et	6-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	6-Me	H	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3	CH
t-Bu	6-Me	H	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	$SCHF_2$	CF_3	CH	Me	6-Cl	H	$SCHF_2$	CF_3	CH
Et	6-Me	H	$SCHF_2$	CF_3	CH	Et	6-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	6-Me	H	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	6-Me	H	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3	CH
Me	6-Me	H	OCF_3	CF_3	CH	Me	6-Cl	H	OCF_3	CF_3	CH
Et	6-Me	H	OCF_3	CF_3	CH	Et	6-Cl	H	OCF_3	CF_3	CH
i-Pr	6-Me	H	OCF_3	CF_3	CH	*i*-Pr	6-Cl	H	OCF_3	CF_3	CH
t-Bu	6-Me	H	OCF_3	CF_3	CH	*t*-Bu	6-Cl	H	OCF_3	CF_3	CH
Me	6-Me	H	SCF_3	CF_3	CH	Me	6-Cl	H	SCF_3	CF_3	CH
Et	6-Me	H	SCF_3	CF_3	CH	Et	6-Cl	H	SCF_3	CF_3	CH
i-Pr	6-Me	H	SCF_3	CF_3	CH	*i*-Pr	6-Cl	H	SCF_3	CF_3	CH
t-Bu	6-Me	H	SCF_3	CF_3	CH	*t*-Bu	6-Cl	H	SCF_3	CF_3	CH
Me	6-Me	H	C_2F_5	CF_3	CH	Me	6-Cl	H	C_2F_5	CF_3	CH
Et	6-Me	H	C_2F_5	CF_3	CH	Et	6-Cl	H	C_2F_5	CF_3	CH
i-Pr	6-Me	H	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	H	C_2F_5	CF_3	CH
t-Bu	6-Me	H	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	H	C_2F_5	CF_3	CH
Me	6-Me	H	*n*-C_3F_7	CF_3	CH	Me	6-Cl	H	*n*-C_3F_7	CF_3	CH
Et	6-Me	H	*n*-C_3F_7	CF_3	CH	Et	6-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3	CH
Me	6-Me	H	*i*-C_3F_7	CF_3	CH	Me	6-Cl	H	*i*-C_3F_7	CF_3	CH
Et	6-Me	H	*i*-C_3F_7	CF_3	CH	Et	6-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3	CH
Me	6-Me	H	CN	CF_3	CH	Me	6-Cl	H	CN	CF_3	CH
Et	6-Me	H	CN	CF_3	CH	Et	6-Cl	H	CN	CF_3	CH
i-Pr	6-Me	H	CN	CF_3	CH	*i*-Pr	6-Cl	H	CN	CF_3	CH
t-Bu	6-Me	H	CN	CF_3	CH	*t*-Bu	6-Cl	H	CN	CF_3	CH
Me	6-Me	Cl	$OCHF_2$	F	CH	Me	6-Cl	Cl	$OCHF_2$	F	CH
Et	6-Me	Cl	$OCHF_2$	F	CH	Et	6-Cl	Cl	$OCHF_2$	F	CH
i-Pr	6-Me	Cl	$OCHF_2$	F	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	F	CH
t-Bu	6-Me	Cl	$OCHF_2$	F	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	F	CH
Me	6-Me	Cl	$SCHF_2$	F	CH	Me	6-Cl	Cl	$SCHF_2$	F	CH
Et	6-Me	Cl	$SCHF_2$	F	CH	Et	6-Cl	Cl	$SCHF_2$	F	CH
i-Pr	6-Me	Cl	$SCHF_2$	F	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	F	CH
t-Bu	6-Me	Cl	$SCHF_2$	F	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	F	CH
Me	6-Me	Cl	OCF_3	F	CH	Me	6-Cl	Cl	OCF_3	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	Cl	OCF_3	F	CH	Et	6-Cl	Cl	OCF_3	F	CH
i-Pr	6-Me	Cl	OCF_3	F	CH	*i*-Pr	6-Cl	Cl	OCF_3	F	CH
t-Bu	6-Me	Cl	OCF_3	F	CH	*t*-Bu	6-Cl	Cl	OCF_3	F	CH
Me	6-Me	Cl	SCF_3	F	CH	Me	6-Cl	Cl	SCF_3	F	CH
Et	6-Me	Cl	SCF_3	F	CH	Et	6-Cl	Cl	SCF_3	F	CH
i-Pr	6-Me	Cl	SCF_3	F	CH	*i*-Pr	6-Cl	Cl	SCF_3	F	CH
t-Bu	6-Me	Cl	SCF_3	F	CH	*t*-Bu	6-Cl	Cl	SCF_3	F	CH
Me	6-Me	Cl	C_2F_5	F	CH	Me	6-Cl	Cl	C_2F_5	F	CH
Et	6-Me	Cl	C_2F_5	F	CH	Et	6-Cl	Cl	C_2F_5	F	CH
i-Pr	6-Me	Cl	C_2F_5	F	CH	*i*-Pr	6-Cl	Cl	C_2F_5	F	CH
t-Bu	6-Me	Cl	C_2F_5	F	CH	*t*-Bu	6-Cl	Cl	C_2F_5	F	CH
Me	6-Me	Cl	*n*-C_3F_7	F	CH	Me	6-Cl	Cl	*n*-C_3F_7	F	CH
Et	6-Me	Cl	*n*-C_3F_7	F	CH	Et	6-Cl	Cl	*n*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F	CH
Me	6-Me	Cl	*i*-C_3F_7	F	CH	Me	6-Cl	Cl	*i*-C_3F_7	F	CH
Et	6-Me	Cl	*i*-C_3F_7	F	CH	Et	6-Cl	Cl	*i*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-Cl	Cl	CN	F	CH
Et	6-Me	Cl	CN	F	CH	Et	6-Cl	Cl	CN	F	CH
i-Pr	6-Me	Cl	CN	F	CH	*i*-Pr	6-Cl	Cl	CN	F	CH
t-Bu	6-Me	Cl	CN	F	CH	*t*-Bu	6-Cl	Cl	CN	F	CH
Me	6-Me	Cl	$OCHF_2$	Cl	CH	Me	6-Cl	Cl	$OCHF_2$	Cl	CH
Et	6-Me	Cl	$OCHF_2$	Cl	CH	Et	6-Cl	Cl	$OCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl	CH
Me	6-Me	Cl	$SCHF_2$	Cl	CH	Me	6-Cl	Cl	$SCHF_2$	Cl	CH
Et	6-Me	Cl	$SCHF_2$	Cl	CH	Et	6-Cl	Cl	$SCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl	CH
Me	6-Me	Cl	OCF_3	Cl	CH	Me	6-Cl	Cl	OCF_3	Cl	CH
Et	6-Me	Cl	OCF_3	Cl	CH	Et	6-Cl	Cl	OCF_3	Cl	CH
i-Pr	6-Me	Cl	OCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	OCF_3	Cl	CH
t-Bu	6-Me	Cl	OCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	OCF_3	Cl	CH
Me	6-Me	Cl	SCF_3	Cl	CH	Me	6-Cl	Cl	SCF_3	Cl	CH
Et	6-Me	Cl	SCF_3	Cl	CH	Et	6-Cl	Cl	SCF_3	Cl	CH

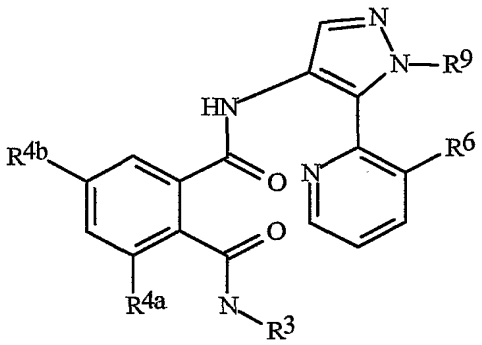
R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	Cl	SCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	SCF_3	Cl	CH
t-Bu	6-Me	Cl	SCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	SCF_3	Cl	CH
Me	6-Me	Cl	C_2F_5	Cl	CH	Me	6-Cl	Cl	C_2F_5	Cl	CH
Et	6-Me	Cl	C_2F_5	Cl	CH	Et	6-Cl	Cl	C_2F_5	Cl	CH
i-Pr	6-Me	Cl	C_2F_5	Cl	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Cl	CH
t-Bu	6-Me	Cl	C_2F_5	Cl	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Cl	CH
Me	6-Me	Cl	*n*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Et	6-Me	Cl	*n*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Me	6-Me	Cl	*i*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Et	6-Me	Cl	*i*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Me	6-Me	Cl	CN	Cl	CH	Me	6-Cl	Cl	CN	Cl	CH
Et	6-Me	Cl	CN	Cl	CH	Et	6-Cl	Cl	CN	Cl	CH
i-Pr	6-Me	Cl	CN	Cl	CH	*i*-Pr	6-Cl	Cl	CN	Cl	CH
t-Bu	6-Me	Cl	CN	Cl	CH	*t*-Bu	6-Cl	Cl	CN	Cl	CH
Me	6-Me	Cl	$OCHF_2$	Br	CH	Me	6-Cl	Cl	$OCHF_2$	Br	CH
Et	6-Me	Cl	$OCHF_2$	Br	CH	Et	6-Cl	Cl	$OCHF_2$	Br	CH
i-Pr	6-Me	Cl	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br	CH
t-Bu	6-Me	Cl	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br	CH
Me	6-Me	Cl	$SCHF_2$	Br	CH	Me	6-Cl	Cl	$SCHF_2$	Br	CH
Et	6-Me	Cl	$SCHF_2$	Br	CH	Et	6-Cl	Cl	$SCHF_2$	Br	CH
i-Pr	6-Me	Cl	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br	CH
t-Bu	6-Me	Cl	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br	CH
Me	6-Me	Cl	OCF_3	Br	CH	Me	6-Cl	Cl	OCF_3	Br	CH
Et	6-Me	Cl	OCF_3	Br	CH	Et	6-Cl	Cl	OCF_3	Br	CH
i-Pr	6-Me	Cl	OCF_3	Br	CH	*i*-Pr	6-Cl	Cl	OCF_3	Br	CH
t-Bu	6-Me	Cl	OCF_3	Br	CH	*t*-Bu	6-Cl	Cl	OCF_3	Br	CH
Me	6-Me	Cl	SCF_3	Br	CH	Me	6-Cl	Cl	SCF_3	Br	CH
Et	6-Me	Cl	SCF_3	Br	CH	Et	6-Cl	Cl	SCF_3	Br	CH
i-Pr	6-Me	Cl	SCF_3	Br	CH	*i*-Pr	6-Cl	Cl	SCF_3	Br	CH
t-Bu	6-Me	Cl	SCF_3	Br	CH	*t*-Bu	6-Cl	Cl	SCF_3	Br	CH
Me	6-Me	Cl	C_2F_5	Br	CH	Me	6-Cl	Cl	C_2F_5	Br	CH
Et	6-Me	Cl	C_2F_5	Br	CH	Et	6-Cl	Cl	C_2F_5	Br	CH
i-Pr	6-Me	Cl	C_2F_5	Br	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	Cl	C_2F_5	Br	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Br	CH
Me	6-Me	Cl	*n*-C_3F_7	Br	CH	Me	6-Cl	Cl	*n*-C_3F_7	Br	CH
Et	6-Me	Cl	*n*-C_3F_7	Br	CH	Et	6-Cl	Cl	*n*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br	CH
Me	6-Me	Cl	*i*-C_3F_7	Br	CH	Me	6-Cl	Cl	*i*-C_3F_7	Br	CH
Et	6-Me	Cl	*i*-C_3F_7	Br	CH	Et	6-Cl	Cl	*i*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br	CH
Me	6-Me	Cl	CN	Br	CH	Me	6-Cl	Cl	CN	Br	CH
Et	6-Me	Cl	CN	Br	CH	Et	6-Cl	Cl	CN	Br	CH
i-Pr	6-Me	Cl	CN	Br	CH	*i*-Pr	6-Cl	Cl	CN	Br	CH
t-Bu	6-Me	Cl	CN	Br	CH	*t*-Bu	6-Cl	Cl	CN	Br	CH
Me	6-Me	Cl	$OCHF_2$	CF_3	CH	Me	6-Cl	Cl	$OCHF_2$	CF_3	CH
Et	6-Me	Cl	$OCHF_2$	CF_3	CH	Et	6-Cl	Cl	$OCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3	CH
Me	6-Me	Cl	$SCHF_2$	CF_3	CH	Me	6-Cl	Cl	$SCHF_2$	CF_3	CH
Et	6-Me	Cl	$SCHF_2$	CF_3	CH	Et	6-Cl	Cl	$SCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3	CH
Me	6-Me	Cl	OCF_3	CF_3	CH	Me	6-Cl	Cl	OCF_3	CF_3	CH
Et	6-Me	Cl	OCF_3	CF_3	CH	Et	6-Cl	Cl	OCF_3	CF_3	CH
i-Pr	6-Me	Cl	OCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	OCF_3	CF_3	CH
t-Bu	6-Me	Cl	OCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	OCF_3	CF_3	CH
Me	6-Me	Cl	SCF_3	CF_3	CH	Me	6-Cl	Cl	SCF_3	CF_3	CH
Et	6-Me	Cl	SCF_3	CF_3	CH	Et	6-Cl	Cl	SCF_3	CF_3	CH
i-Pr	6-Me	Cl	SCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	SCF_3	CF_3	CH
t-Bu	6-Me	Cl	SCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	SCF_3	CF_3	CH
Me	6-Me	Cl	C_2F_5	CF_3	CH	Me	6-Cl	Cl	C_2F_5	CF_3	CH
Et	6-Me	Cl	C_2F_5	CF_3	CH	Et	6-Cl	Cl	C_2F_5	CF_3	CH
i-Pr	6-Me	Cl	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3	CH
t-Bu	6-Me	Cl	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3	CH
Me	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	Cl	i-C_3F_7	CF_3	CH	Me	6-Cl	Cl	i-C_3F_7	CF_3	CH
Et	6-Me	Cl	i-C_3F_7	CF_3	CH	Et	6-Cl	Cl	i-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	i-C_3F_7	CF_3	CH	i-Pr	6-Cl	Cl	i-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	i-C_3F_7	CF_3	CH	t-Bu	6-Cl	Cl	i-C_3F_7	CF_3	CH
Me	6-Me	Cl	CN	CF_3	CH	Me	6-Cl	Cl	CN	CF_3	CH
Et	6-Me	Cl	CN	CF_3	CH	Et	6-Cl	Cl	CN	CF_3	CH
i-Pr	6-Me	Cl	CN	CF_3	CH	i-Pr	6-Cl	Cl	CN	CF_3	CH
t-Bu	6-Me	Cl	CN	CF_3	CH	t-Bu	6-Cl	Cl	CN	CF_3	CH
Me	6-Me	H	$OCHF_2$	F	CF	Me	6-Cl	H	$OCHF_2$	F	CF
Et	6-Me	H	$OCHF_2$	F	CF	Et	6-Cl	H	$OCHF_2$	F	CF
i-Pr	6-Me	H	$OCHF_2$	F	CF	i-Pr	6-Cl	H	$OCHF_2$	F	CF
t-Bu	6-Me	H	$OCHF_2$	F	CF	t-Bu	6-Cl	H	$OCHF_2$	F	CF
Me	6-Me	H	$SCHF_2$	F	CF	Me	6-Cl	H	$SCHF_2$	F	CF
Et	6-Me	H	$SCHF_2$	F	CF	Et	6-Cl	H	$SCHF_2$	F	CF
i-Pr	6-Me	H	$SCHF_2$	F	CF	i-Pr	6-Cl	H	$SCHF_2$	F	CF
t-Bu	6-Me	H	$SCHF_2$	F	CF	t-Bu	6-Cl	H	$SCHF_2$	F	CF
Me	6-Me	H	OCF_3	F	CF	Me	6-Cl	H	OCF_3	F	CF
Et	6-Me	H	OCF_3	F	CF	Et	6-Cl	H	OCF_3	F	CF
i-Pr	6-Me	H	OCF_3	F	CF	i-Pr	6-Cl	H	OCF_3	F	CF
t-Bu	6-Me	H	OCF_3	F	CF	t-Bu	6-Cl	H	OCF_3	F	CF
Me	6-Me	H	SCF_3	F	CF	Me	6-Cl	H	SCF_3	F	CF
Et	6-Me	H	SCF_3	F	CF	Et	6-Cl	H	SCF_3	F	CF
i-Pr	6-Me	H	SCF_3	F	CF	i-Pr	6-Cl	H	SCF_3	F	CF
t-Bu	6-Me	H	SCF_3	F	CF	t-Bu	6-Cl	H	SCF_3	F	CF
Me	6-Me	H	C_2F_5	F	CF	Me	6-Cl	H	C_2F_5	F	CF
Et	6-Me	H	C_2F_5	F	CF	Et	6-Cl	H	C_2F_5	F	CF
i-Pr	6-Me	H	C_2F_5	F	CF	i-Pr	6-Cl	H	C_2F_5	F	CF
t-Bu	6-Me	H	C_2F_5	F	CF	t-Bu	6-Cl	H	C_2F_5	F	CF
Me	6-Me	H	n-C_3F_7	F	CF	Me	6-Cl	H	n-C_3F_7	F	CF
Et	6-Me	H	n-C_3F_7	F	CF	Et	6-Cl	H	n-C_3F_7	F	CF
i-Pr	6-Me	H	n-C_3F_7	F	CF	i-Pr	6-Cl	H	n-C_3F_7	F	CF
t-Bu	6-Me	H	n-C_3F_7	F	CF	t-Bu	6-Cl	H	n-C_3F_7	F	CF
Me	6-Me	H	i-C_3F_7	F	CF	Me	6-Cl	H	i-C_3F_7	F	CF
Et	6-Me	H	i-C_3F_7	F	CF	Et	6-Cl	H	i-C_3F_7	F	CF
i-Pr	6-Me	H	i-C_3F_7	F	CF	i-Pr	6-Cl	H	i-C_3F_7	F	CF
t-Bu	6-Me	H	i-C_3F_7	F	CF	t-Bu	6-Cl	H	i-C_3F_7	F	CF
Me	6-Me	H	CN	F	CF	Me	6-Cl	H	CN	F	CF

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	H	CN	F	CF	Et	6-Cl	H	CN	F	CF
i-Pr	6-Me	H	CN	F	CF	*i*-Pr	6-Cl	H	CN	F	CF
t-Bu	6-Me	H	CN	F	CF	*t*-Bu	6-Cl	H	CN	F	CF
Me	6-Me	H	$OCHF_2$	Cl	CCl	Me	6-Cl	H	$OCHF_2$	Cl	CCl
Et	6-Me	H	$OCHF_2$	Cl	CCl	Et	6-Cl	H	$OCHF_2$	Cl	CCl
i-Pr	6-Me	H	$OCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CCl
t-Bu	6-Me	H	$OCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CCl
Me	6-Me	H	$SCHF_2$	Cl	CCl	Me	6-Cl	H	$SCHF_2$	Cl	CCl
Et	6-Me	H	$SCHF_2$	Cl	CCl	Et	6-Cl	H	$SCHF_2$	Cl	CCl
i-Pr	6-Me	H	$SCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CCl
t-Bu	6-Me	H	$SCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CCl
Me	6-Me	H	OCF_3	Cl	CCl	Me	6-Cl	H	OCF_3	Cl	CCl
Et	6-Me	H	OCF_3	Cl	CCl	Et	6-Cl	H	OCF_3	Cl	CCl
i-Pr	6-Me	H	OCF_3	Cl	CCl	*i*-Pr	6-Cl	H	OCF_3	Cl	CCl
t-Bu	6-Me	H	OCF_3	Cl	CCl	*t*-Bu	6-Cl	H	OCF_3	Cl	CCl
Me	6-Me	H	SCF_3	Cl	CCl	Me	6-Cl	H	SCF_3	Cl	CCl
Et	6-Me	H	SCF_3	Cl	CCl	Et	6-Cl	H	SCF_3	Cl	CCl
i-Pr	6-Me	H	SCF_3	Cl	CCl	*i*-Pr	6-Cl	H	SCF_3	Cl	CCl
t-Bu	6-Me	H	SCF_3	Cl	CCl	*t*-Bu	6-Cl	H	SCF_3	Cl	CCl
Me	6-Me	H	C_2F_5	Cl	CCl	Me	6-Cl	H	C_2F_5	Cl	CCl
Et	6-Me	H	C_2F_5	Cl	CCl	Et	6-Cl	H	C_2F_5	Cl	CCl
i-Pr	6-Me	H	C_2F_5	Cl	CCl	*i*-Pr	6-Cl	H	C_2F_5	Cl	CCl
t-Bu	6-Me	H	C_2F_5	Cl	CCl	*t*-Bu	6-Cl	H	C_2F_5	Cl	CCl
Me	6-Me	H	*n*-C_3F_7	Cl	CCl	Me	6-Cl	H	*n*-C_3F_7	Cl	CCl
Et	6-Me	H	*n*-C_3F_7	Cl	CCl	Et	6-Cl	H	*n*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CCl
Me	6-Me	H	*i*-C_3F_7	Cl	CCl	Me	6-Cl	H	*i*-C_3F_7	Cl	CCl
Et	6-Me	H	*i*-C_3F_7	Cl	CCl	Et	6-Cl	H	*i*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CCl
Me	6-Me	H	CN	Cl	CCl	Me	6-Cl	H	CN	Cl	CCl
Et	6-Me	H	CN	Cl	CCl	Et	6-Cl	H	CN	Cl	CCl
i-Pr	6-Me	H	CN	Cl	CCl	*i*-Pr	6-Cl	H	CN	Cl	CCl
t-Bu	6-Me	H	CN	Cl	CCl	*t*-Bu	6-Cl	H	CN	Cl	CCl

Table 10



R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	F	CF_3	Me	Cl	Cl	Br	CH_2CF_3	Me	Br
CH_3	F	CF_3	Et	Cl	Cl	Br	CH_2CF_3	Et	Br
CH_3	F	CF_3	*i*-Pr	Cl	Cl	Br	CH_2CF_3	*i*-Pr	Br
CH_3	F	CF_3	*t*-Bu	Cl	Cl	Br	CH_2CF_3	*t*-Bu	Br
CH_3	F	CF_3	Me	Br	Cl	Br	CF_2CHF_2	Me	Cl
CH_3	F	CF_3	Et	Br	Cl	Br	CF_2CHF_2	Et	Cl
CH_3	F	CF_3	*i*-Pr	Br	Cl	Br	CF_2CHF_2	*i*-Pr	Cl
CH_3	F	CF_3	*t*-Bu	Br	Cl	Br	CF_2CHF_2	*t*-Bu	Cl
CH_3	F	CH_2CF_3	Me	Cl	Cl	Br	CF_2CHF_2	Me	Br
CH_3	F	CH_2CF_3	Et	Cl	Cl	Br	CF_2CHF_2	Et	Br
CH_3	F	CH_2CF_3	*i*-Pr	Cl	Cl	Br	CF_2CHF_2	*i*-Pr	Br
CH_3	F	CH_2CF_3	*t*-Bu	Cl	Cl	Br	CF_2CHF_2	*t*-Bu	Br
CH_3	F	CH_2CF_3	Me	Br	Cl	I	CF_3	Me	Cl
CH_3	F	CH_2CF_3	Et	Br	Cl	I	CF_3	Et	Cl
CH_3	F	CH_2CF_3	*i*-Pr	Br	Cl	I	CF_3	*i*-Pr	Cl
CH_3	F	CH_2CF_3	*t*-Bu	Br	Cl	I	CF_3	*t*-Bu	Cl
CH_3	F	CF_2CHF_2	Me	Cl	Cl	I	CF_3	Me	Br
CH_3	F	CF_2CHF_2	Et	Cl	Cl	I	CF_3	Et	Br
CH_3	F	CF_2CHF_2	*i*-Pr	Cl	Cl	I	CF_3	*i*-Pr	Br
CH_3	F	CF_2CHF_2	*t*-Bu	Cl	Cl	I	CF_3	*t*-Bu	Br
CH_3	F	CF_2CHF_2	Me	Br	Cl	I	CH_2CF_3	Me	Cl
CH_3	F	CF_2CHF_2	Et	Br	Cl	I	CH_2CF_3	Et	Cl
CH_3	F	CF_2CHF_2	*i*-Pr	Br	Cl	I	CH_2CF_3	*i*-Pr	Cl
CH_3	F	CF_2CHF_2	*t*-Bu	Br	Cl	I	CH_2CF_3	*t*-Bu	Cl
CH_3	Cl	CF_3	Me	Cl	Cl	I	CH_2CF_3	Me	Br
CH_3	Cl	CF_3	Et	Cl	Cl	I	CH_2CF_3	Et	Br
CH_3	Cl	CF_3	*i*-Pr	Cl	Cl	I	CH_2CF_3	*i*-Pr	Br
CH_3	Cl	CF_3	*t*-Bu	Cl	Cl	I	CH_2CF_3	*t*-Bu	Br

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	Cl	CF_3	Me	Br	Cl	I	CF_2CHF_2	Me	Cl
CH_3	Cl	CF_3	Et	Br	Cl	I	CF_2CHF_2	Et	Cl
CH_3	Cl	CF_3	*i*-Pr	Br	Cl	I	CF_2CHF_2	*i*-Pr	Cl
CH_3	Cl	CF_3	*t*-Bu	Br	Cl	I	CF_2CHF_2	*t*-Bu	Cl
CH_3	Cl	CH_2CF_3	Me	Cl	Cl	I	CF_2CHF_2	Me	Br
CH_3	Cl	CH_2CF_3	Et	Cl	Cl	I	CF_2CHF_2	Et	Br
CH_3	Cl	CH_2CF_3	*i*-Pr	Cl	Cl	I	CF_2CHF_2	*i*-Pr	Br
CH_3	Cl	CH_2CF_3	*t*-Bu	Cl	Cl	I	CF_2CHF_2	*t*-Bu	Br
CH_3	Cl	CH_2CF_3	Me	Br	Cl	CF_3	CF_3	Me	Cl
CH_3	Cl	CH_2CF_3	Et	Br	Cl	CF_3	CF_3	Et	Cl
CH_3	Cl	CH_2CF_3	*i*-Pr	Br	Cl	CF_3	CF_3	*i*-Pr	Cl
CH_3	Cl	CH_2CF_3	*t*-Bu	Br	Cl	CF_3	CF_3	*t*-Bu	Cl
CH_3	Cl	CF_2CHF_2	Me	Cl	Cl	CF_3	CF_3	Me	Br
CH_3	Cl	CF_2CHF_2	Et	Cl	Cl	CF_3	CF_3	Et	Br
CH_3	Cl	CF_2CHF_2	*i*-Pr	Cl	Cl	CF_3	CF_3	*i*-Pr	Br
CH_3	Cl	CF_2CHF_2	*t*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Br
CH_3	Cl	CF_2CHF_2	Me	Br	Cl	CF_3	CH_2CF_3	Me	Cl
CH_3	Cl	CF_2CHF_2	Et	Br	Cl	CF_3	CH_2CF_3	Et	Cl
CH_3	Cl	CF_2CHF_2	*i*-Pr	Br	Cl	CF_3	CH_2CF_3	*i*-Pr	Cl
CH_3	Cl	CF_2CHF_2	*t*-Bu	Br	Cl	CF_3	CH_2CF_3	*t*-Bu	Cl
CH_3	Br	CF_3	Me	Cl	Cl	CF_3	CH_2CF_3	Me	Br
CH_3	Br	CF_3	Et	Cl	Cl	CF_3	CH_2CF_3	Et	Br
CH_3	Br	CF_3	*i*-Pr	Cl	Cl	CF_3	CH_2CF_3	*i*-Pr	Br
CH_3	Br	CF_3	*t*-Bu	Cl	Cl	CF_3	CH_2CF_3	*t*-Bu	Br
CH_3	Br	CF_3	Me	Br	Cl	CF_3	CF_2CHF_2	Me	Cl
CH_3	Br	CF_3	Et	Br	Cl	CF_3	CF_2CHF_2	Et	Cl
CH_3	Br	CF_3	*i*-Pr	Br	Cl	CF_3	CF_2CHF_2	*i*-Pr	Cl
CH_3	Br	CF_3	*t*-Bu	Br	Cl	CF_3	CF_2CHF_2	*t*-Bu	Cl
CH_3	Br	CH_2CF_3	Me	Cl	Cl	CF_3	CF_2CHF_2	Me	Br
CH_3	Br	CH_2CF_3	Et	Cl	Cl	CF_3	CF_2CHF_2	Et	Br
CH_3	Br	CH_2CF_3	*i*-Pr	Cl	Cl	CF_3	CF_2CHF_2	*i*-Pr	Br
CH_3	Br	CH_2CF_3	*t*-Bu	Cl	Cl	CF_3	CF_2CHF_2	*t*-Bu	Br
CH_3	Br	CH_2CF_3	Me	Br	Cl	Cl	CH_2CF_3	*n*-Pr	Cl
CH_3	Br	CH_2CF_3	Et	Br	Cl	Cl	CH_2CF_3	*n*-Bu	Cl
CH_3	Br	CH_2CF_3	*i*-Pr	Br	Cl	Cl	CH_2CF_3	*s*-Bu	Cl
CH_3	Br	CH_2CF_3	*t*-Bu	Br	Cl	Cl	CH_2CF_3	*i*-Bu	Cl
CH_3	Br	CF_2CHF_2	Me	Cl	Br	F	CF_3	Me	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	Br	CF_2CHF_2	Et	Cl	Br	F	CF_3	Et	Cl
CH_3	Br	CF_2CHF_2	*i*-Pr	Cl	Br	F	CF_3	*i*-Pr	Cl
CH_3	Br	CF_2CHF_2	*t*-Bu	Cl	Br	F	CF_3	*t*-Bu	Cl
CH_3	Br	CF_2CHF_2	Me	Br	Br	F	CF_3	Me	Br
CH_3	Br	CF_2CHF_2	Et	Br	Br	F	CF_3	Et	Br
CH_3	Br	CF_2CHF_2	*i*-Pr	Br	Br	F	CF_3	*i*-Pr	Br
CH_3	Br	CF_2CHF_2	*t*-Bu	Br	Br	F	CF_3	*t*-Bu	Br
CH_3	I	CF_3	Me	Cl	Br	F	CH_2CF_3	Me	Cl
CH_3	I	CF_3	Et	Cl	Br	F	CH_2CF_3	Et	Cl
CH_3	I	CF_3	*i*-Pr	Cl	Br	F	CH_2CF_3	*i*-Pr	Cl
CH_3	I	CF_3	*t*-Bu	Cl	Br	F	CH_2CF_3	*t*-Bu	Cl
CH_3	I	CF_3	Me	Br	Br	F	CH_2CF_3	Me	Br
CH_3	I	CF_3	Et	Br	Br	F	CH_2CF_3	Et	Br
CH_3	I	CF_3	*i*-Pr	Br	Br	F	CH_2CF_3	*i*-Pr	Br
CH_3	I	CF_3	*t*-Bu	Br	Br	F	CH_2CF_3	*t*-Bu	Br
CH_3	I	CH_2CF_3	Me	Cl	Br	F	CF_2CHF_2	Me	Cl
CH_3	I	CH_2CF_3	Et	Cl	Br	F	CF_2CHF_2	Et	Cl
CH_3	I	CH_2CF_3	*i*-Pr	Cl	Br	F	CF_2CHF_2	*i*-Pr	Cl
CH_3	I	CH_2CF_3	*t*-Bu	Cl	Br	F	CF_2CHF_2	*t*-Bu	Cl
CH_3	I	CH_2CF_3	Me	Br	Br	F	CF_2CHF_2	Me	Br
CH_3	I	CH_2CF_3	Et	Br	Br	F	CF_2CHF_2	Et	Br
CH_3	I	CH_2CF_3	*i*-Pr	Br	Br	F	CF_2CHF_2	*i*-Pr	Br
CH_3	I	CH_2CF_3	*t*-Bu	Br	Br	F	CF_2CHF_2	*t*-Bu	Br
CH_3	I	CF_2CHF_2	Me	Cl	Br	Cl	CF_3	Me	Cl
CH_3	I	CF_2CHF_2	Et	Cl	Br	Cl	CF_3	Et	Cl
CH_3	I	CF_2CHF_2	*i*-Pr	Cl	Br	Cl	CF_3	*i*-Pr	Cl
CH_3	I	CF_2CHF_2	*t*-Bu	Cl	Br	Cl	CF_3	*t*-Bu	Cl
CH_3	I	CF_2CHF_2	Me	Br	Br	Cl	CF_3	Me	Br
CH_3	I	CF_2CHF_2	Et	Br	Br	Cl	CF_3	Et	Br
CH_3	I	CF_2CHF_2	*i*-Pr	Br	Br	Cl	CF_3	*i*-Pr	Br
CH_3	I	CF_2CHF_2	*t*-Bu	Br	Br	Cl	CF_3	*t*-Bu	Br
CH_3	CF_3	CF_3	Me	Cl	Br	Cl	CH_2CF_3	Me	Cl
CH_3	CF_3	CF_3	Et	Cl	Br	Cl	CH_2CF_3	Et	Cl
CH_3	CF_3	CF_3	*i*-Pr	Cl	Br	Cl	CH_2CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_3	*t*-Bu	Cl	Br	Cl	CH_2CF_3	*t*-Bu	Cl
CH_3	CF_3	CF_3	Me	Br	Br	Cl	CH_2CF_3	Me	Br
CH_3	CF_3	CF_3	Et	Br	Br	Cl	CH_2CF_3	Et	Br

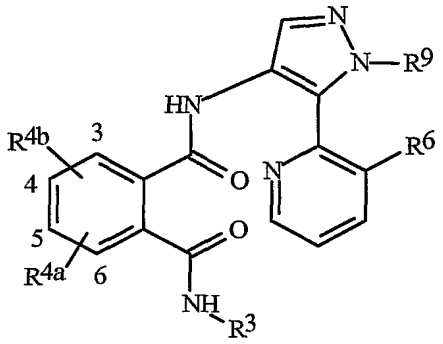
R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	CF_3	CF_3	*i*-Pr	Br	Br	Cl	CH_2CF_3	*i*-Pr	Br
CH_3	CF_3	CF_3	*t*-Bu	Br	Br	Cl	CH_2CF_3	*t*-Bu	Br
CH_3	CF_3	CH_2CF_3	Me	Cl	Br	Cl	CF_2CHF_2	Me	Cl
CH_3	CF_3	CH_2CF_3	Et	Cl	Br	Cl	CF_2CHF_2	Et	Cl
CH_3	CF_3	CH_2CF_3	*i*-Pr	Cl	Br	Cl	CF_2CHF_2	*i*-Pr	Cl
CH_3	CF_3	CH_2CF_3	*t*-Bu	Cl	Br	Cl	CF_2CHF_2	*t*-Bu	Cl
CH_3	CF_3	CH_2CF_3	Me	Br	Br	Cl	CF_2CHF_2	Me	Br
CH_3	CF_3	CH_2CF_3	Et	Br	Br	Cl	CF_2CHF_2	Et	Br
CH_3	CF_3	CH_2CF_3	*i*-Pr	Br	Br	Cl	CF_2CHF_2	*i*-Pr	Br
CH_3	CF_3	CH_2CF_3	*t*-Bu	Br	Br	Cl	CF_2CHF_2	*t*-Bu	Br
CH_3	CF_3	CF_2CHF_2	Me	Cl	Br	Br	CF_3	Me	Cl
CH_3	CF_3	CF_2CHF_2	Et	Cl	Br	Br	CF_3	Et	Cl
CH_3	CF_3	CF_2CHF_2	*i*-Pr	Cl	Br	Br	CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_2CHF_2	*t*-Bu	Cl	Br	Br	CF_3	*t*-Bu	Cl
CH_3	CF_3	CF_2CHF_2	Me	Br	Br	Br	CF_3	Me	Br
CH_3	CF_3	CF_2CHF_2	Et	Br	Br	Br	CF_3	Et	Br
CH_3	CF_3	CF_2CHF_2	*i*-Pr	Br	Br	Br	CF_3	*i*-Pr	Br
CH_3	CF_3	CF_2CHF_2	*t*-Bu	Br	Br	Br	CF_3	*t*-Bu	Br
CH_3	Cl	CH_2CF_3	*n*-Pr	Cl	Br	Br	CH_2CF_3	Me	Cl
CH_3	Cl	CH_2CF_3	*n*-Bu	Cl	Br	Br	CH_2CF_3	Et	Cl
CH_3	Cl	CH_2CF_3	*s*-Bu	Cl	Br	Br	CH_2CF_3	*i*-Pr	Cl
CH_3	Cl	CH_2CF_3	*i*-Bu	Cl	Br	Br	CH_2CF_3	*t*-Bu	Cl
Cl	F	CF_3	Me	Cl	Br	Br	CH_2CF_3	Me	Br
Cl	F	CF_3	Et	Cl	Br	Br	CH_2CF_3	Et	Br
Cl	F	CF_3	*i*-Pr	Cl	Br	Br	CH_2CF_3	*i*-Pr	Br
Cl	F	CF_3	*t*-Bu	Cl	Br	Br	CH_2CF_3	*t*-Bu	Br
Cl	F	CF_3	Me	Br	Br	Br	CF_2CHF_2	Me	Cl
Cl	F	CF_3	Et	Br	Br	Br	CF_2CHF_2	Et	Cl
Cl	F	CF_3	*i*-Pr	Br	Br	Br	CF_2CHF_2	*i*-Pr	Cl
Cl	F	CF_3	*t*-Bu	Br	Br	Br	CF_2CHF_2	*t*-Bu	Cl
Cl	F	CH_2CF_3	Me	Cl	Br	Br	CF_2CHF_2	Me	Br
Cl	F	CH_2CF_3	Et	Cl	Br	Br	CF_2CHF_2	Et	Br
Cl	F	CH_2CF_3	*i*-Pr	Cl	Br	Br	CF_2CHF_2	*i*-Pr	Br
Cl	F	CH_2CF_3	*t*-Bu	Cl	Br	Br	CF_2CHF_2	*t*-Bu	Br
Cl	F	CH_2CF_3	Me	Br	Br	I	CF_3	Me	Cl
Cl	F	CH_2CF_3	Et	Br	Br	I	CF_3	Et	Cl
Cl	F	CH_2CF_3	*i*-Pr	Br	Br	I	CF_3	*i*-Pr	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
Cl	F	CH_2CF_3	*t*-Bu	Br	Br	I	CF_3	*t*-Bu	Cl
Cl	F	CF_2CHF_2	Me	Cl	Br	I	CF_3	Me	Br
Cl	F	CF_2CHF_2	Et	Cl	Br	I	CF_3	Et	Br
Cl	F	CF_2CHF_2	*i*-Pr	Cl	Br	I	CF_3	*i*-Pr	Br
Cl	F	CF_2CHF_2	*t*-Bu	Cl	Br	I	CF_3	*t*-Bu	Br
Cl	F	CF_2CHF_2	Me	Br	Br	I	CH_2CF_3	Me	Cl
Cl	F	CF_2CHF_2	Et	Br	Br	I	CH_2CF_3	Et	Cl
Cl	F	CF_2CHF_2	*i*-Pr	Br	Br	I	CH_2CF_3	*i*-Pr	Cl
Cl	F	CF_2CHF_2	*t*-Bu	Br	Br	I	CH_2CF_3	*t*-Bu	Cl
Cl	Cl	CF_3	Me	Cl	Br	I	CH_2CF_3	Me	Br
Cl	Cl	CF_3	Et	Cl	Br	I	CH_2CF_3	Et	Br
Cl	Cl	CF_3	*i*-Pr	Cl	Br	I	CH_2CF_3	*i*-Pr	Br
Cl	Cl	CF_3	*t*-Bu	Cl	Br	I	CH_2CF_3	*t*-Bu	Br
Cl	Cl	CF_3	Me	Br	Br	I	CF_2CHF_2	Me	Cl
Cl	Cl	CF_3	Et	Br	Br	I	CF_2CHF_2	Et	Cl
Cl	Cl	CF_3	*i*-Pr	Br	Br	I	CF_2CHF_2	*i*-Pr	Cl
Cl	Cl	CF_3	*t*-Bu	Br	Br	I	CF_2CHF_2	*t*-Bu	Cl
Cl	Cl	CH_2CF_3	Me	Cl	Br	I	CF_2CHF_2	Me	Br
Cl	Cl	CH_2CF_3	Et	Cl	Br	I	CF_2CHF_2	Et	Br
Cl	Cl	CH_2CF_3	*i*-Pr	Cl	Br	I	CF_2CHF_2	*i*-Pr	Br
Cl	Cl	CH_2CF_3	*t*-Bu	Cl	Br	I	CF_2CHF_2	*t*-Bu	Br
Cl	Cl	CH_2CF_3	Me	Br	Br	CF_3	CF_3	Me	Cl
Cl	Cl	CH_2CF_3	Et	Br	Br	CF_3	CF_3	Et	Cl
Cl	Cl	CH_2CF_3	*i*-Pr	Br	Br	CF_3	CF_3	*i*-Pr	Cl
Cl	Cl	CH_2CF_3	*t*-Bu	Br	Br	CF_3	CF_3	*t*-Bu	Cl
Cl	Cl	CF_2CHF_2	Me	Cl	Br	CF_3	CF_3	Me	Br
Cl	Cl	CF_2CHF_2	Et	Cl	Br	CF_3	CF_3	Et	Br
Cl	Cl	CF_2CHF_2	*i*-Pr	Cl	Br	CF_3	CF_3	*i*-Pr	Br
Cl	Cl	CF_2CHF_2	*t*-Bu	Cl	Br	CF_3	CF_3	*t*-Bu	Br
Cl	Cl	CF_2CHF_2	Me	Br	Br	CF_3	CH_2CF_3	Me	Cl
Cl	Cl	CF_2CHF_2	Et	Br	Br	CF_3	CH_2CF_3	Et	Cl
Cl	Cl	CF_2CHF_2	*i*-Pr	Br	Br	CF_3	CH_2CF_3	*i*-Pr	Cl
Cl	Cl	CF_2CHF_2	*t*-Bu	Br	Br	CF_3	CH_2CF_3	*t*-Bu	Cl
Cl	Br	CF_3	Me	Cl	Br	CF_3	CH_2CF_3	Me	Br
Cl	Br	CF_3	Et	Cl	Br	CF_3	CH_2CF_3	Et	Br
Cl	Br	CF_3	*i*-Pr	Cl	Br	CF_3	CH_2CF_3	*i*-Pr	Br
Cl	Br	CF_3	*t*-Bu	Cl	Br	CF_3	CH_2CF_3	*t*-Bu	Br

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
Cl	Br	CF_3	Me	Br	Br	CF_3	CF_2CHF_2	Me	Cl
Cl	Br	CF_3	Et	Br	Br	CF_3	CF_2CHF_2	Et	Cl
Cl	Br	CF_3	*i*-Pr	Br	Br	CF_3	CF_2CHF_2	*i*-Pr	Cl
Cl	Br	CF_3	*t*-Bu	Br	Br	CF_3	CF_2CHF_2	*t*-Bu	Cl
Cl	Br	CH_2CF_3	Me	Cl	Br	CF_3	CF_2CHF_2	Me	Br
Cl	Br	CH_2CF_3	Et	Cl	Br	CF_3	CF_2CHF_2	Et	Br
Cl	Br	CH_2CF_3	*i*-Pr	Cl	Br	CF_3	CF_2CHF_2	*i*-Pr	Br
Cl	Br	CH_2CF_3	*t*-Bu	Cl	Br	CF_3	CF_2CHF_2	*t*-Bu	Br
CH_3	H	CF_3	Me	Cl	Cl	H	CF_3	Me	Cl
CH_3	H	CF_3	Et	Cl	Cl	H	CF_3	Et	Cl
CH_3	H	CF_3	*i*-Pr	Cl	Cl	H	CF_3	*i*-Pr	Cl
CH_3	H	CF_3	*t*-Bu	Cl	Cl	H	CF_3	*t*-Bu	Cl
CH_3	H	CF_3	Me	Br	Cl	H	CF_3	Me	Br
CH_3	H	CF_3	Et	Br	Cl	H	CF_3	Et	Br
CH_3	H	CF_3	*i*-Pr	Br	Cl	H	CF_3	*i*-Pr	Br
CH_3	H	CF_3	*t*-Bu	Br	Cl	H	CF_3	*t*-Bu	Br
CH_3	H	CH_2CF_3	Me	Cl	Cl	H	CH_2CF_3	Me	Cl
CH_3	H	CH_2CF_3	Et	Cl	Cl	H	CH_2CF_3	Et	Cl
CH_3	H	CH_2CF_3	*i*-Pr	Cl	Cl	H	CH_2CF_3	*i*-Pr	Cl
CH_3	H	CH_2CF_3	*t*-Bu	Cl	Cl	H	CH_2CF_3	*t*-Bu	Cl
CH_3	H	CH_2CF_3	Me	Br	Cl	H	CH_2CF_3	Me	Br
CH_3	H	CH_2CF_3	Et	Br	Cl	H	CH_2CF_3	Et	Br
CH_3	H	CH_2CF_3	*i*-Pr	Br	Cl	H	CH_2CF_3	*i*-Pr	Br
CH_3	H	CH_2CF_3	*t*-Bu	Br	Cl	H	CH_2CF_3	*t*-Bu	Br
CH_3	H	CF_2CHF_2	Me	Cl	Cl	H	CF_2CHF_2	Me	Cl
CH_3	H	CF_2CHF_2	Et	Cl	Cl	H	CF_2CHF_2	Et	Cl
CH_3	H	CF_2CHF_2	*i*-Pr	Cl	Cl	H	CF_2CHF_2	*i*-Pr	Cl
CH_3	H	CF_2CHF_2	*t*-Bu	Cl	Cl	H	CF_2CHF_2	*t*-Bu	Cl
CH_3	H	CF_2CHF_2	Me	Br	Cl	H	CF_2CHF_2	Me	Br
CH_3	H	CF_2CHF_2	Et	Br	Cl	H	CF_2CHF_2	Et	Br
CH_3	H	CF_2CHF_2	*i*-Pr	Br	Cl	H	CF_2CHF_2	*i*-Pr	Br
CH_3	H	CF_2CHF_2	*t*-Bu	Br	Cl	H	CF_2CHF_2	*t*-Bu	Br
CH_3	F	CHF_2	Me	Cl	CH_3	Cl	CHF_2	Me	Cl
CH_3	F	CHF_2	Et	Cl	CH_3	Cl	CHF_2	Et	Cl
CH_3	F	CHF_2	*i*-Pr	Cl	CH_3	Cl	CHF_2	*i*-Pr	Cl
CH_3	F	CHF_2	*t*-Bu	Cl	CH_3	Cl	CHF_2	*t*-Bu	Cl
CH_3	F	CHF_2	Me	Br	CH_3	Cl	CHF_2	Me	Br

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	F	CHF_2	Et	Br	CH_3	Cl	CHF_2	Et	Br
CH_3	F	CHF_2	*i*-Pr	Br	CH_3	Cl	CHF_2	*i*-Pr	Br
CH_3	F	CHF_2	*t*-Bu	Br	CH_3	Cl	CHF_2	*t*-Bu	Br
Cl	F	CHF_2	Me	Cl	Cl	F	CHF_2	Me	Cl
Cl	F	CHF_2	Et	Cl	Cl	F	CHF_2	Et	Cl
Cl	F	CHF_2	*i*-Pr	Cl	Cl	F	CHF_2	*i*-Pr	Cl
Cl	F	CHF_2	*t*-Bu	Cl	Cl	F	CHF_2	*t*-Bu	Cl
Cl	F	CHF_2	Me	Br	Cl	F	CHF_2	Me	Br
Cl	F	CHF_2	Et	Br	Cl	F	CHF_2	Et	Br
Cl	F	CHF_2	*i*-Pr	Br	Cl	F	CHF_2	*i*-Pr	Br
Cl	F	CHF_2	*t*-Bu	Br	Cl	F	CHF_2	*t*-Bu	Br
CH_3	Br	CHF_2	Me	Cl	CH_3	I	CHF_2	Me	Cl
CH_3	Br	CHF_2	Et	Cl	CH_3	I	CHF_2	Et	Cl
CH_3	Br	CHF_2	*i*-Pr	Cl	CH_3	I	CHF_2	*i*-Pr	Cl
CH_3	Br	CHF_2	*t*-Bu	Cl	CH_3	I	CHF_2	*t*-Bu	Cl
CH_3	Br	CHF_2	Me	Br	CH_3	I	CHF_2	Me	Br
CH_3	Br	CHF_2	Et	Br	CH_3	I	CHF_2	Et	Br
CH_3	Br	CHF_2	*i*-Pr	Br	CH_3	I	CHF_2	*i*-Pr	Br
CH_3	Br	CHF_2	*t*-Bu	Br	CH_3	I	CHF_2	*t*-Bu	Br
Cl	Br	CHF_2	Me	Cl	Cl	I	CHF_2	Me	Cl
Cl	Br	CHF_2	Et	Cl	Cl	I	CHF_2	Et	Cl
Cl	Br	CHF_2	*i*-Pr	Cl	Cl	I	CHF_2	*i*-Pr	Cl
Cl	Br	CHF_2	*t*-Bu	Cl	Cl	I	CHF_2	*t*-Bu	Cl
Cl	Br	CHF_2	Me	Br	Cl	I	CHF_2	Me	Br
Cl	Br	CHF_2	Et	Br	Cl	I	CHF_2	Et	Br
Cl	Br	CHF_2	*i*-Pr	Br	Cl	I	CHF_2	*i*-Pr	Br
Cl	Br	CHF_2	*t*-Bu	Br	Cl	I	CHF_2	*t*-Bu	Br
CH_3	H	CHF_2	Me	Br	Cl	H	CHF_2	Me	Br
CH_3	H	CHF_2	Et	Br	Cl	H	CHF_2	Et	Br
CH_3	H	CHF_2	*i*-Pr	Br	Cl	H	CHF_2	*i*-Pr	Br
CH_3	H	CHF_2	*t*-Bu	Br	Cl	H	CHF_2	*t*-Bu	Br

Table 11



R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	3-Me	H	CF_3	F	Me	3-Cl	H	CF_3	F
Et	3-Me	5-Me	CHF_2	F	Et	3-Cl	5-Me	CHF_2	F
i-Pr	3-Me	H	CHF_2	F	*i*-Pr	3-Cl	H	CHF_2	F
t-Bu	3-Me	5-Cl	CH_2CF_3	F	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	F
Me	3-Me	H	CH_2CF_3	F	Me	3-Cl	H	CH_2CF_3	F
Et	3-Me	H	CF_2CHF_2	F	Et	3-Cl	H	CF_2CHF_2	F
i-Pr	3-Me	5-Br	CF_2CHF_2	F	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	F
t-Bu	3-Me	H	Et	F	*t*-Bu	3-Cl	H	Et	F
propargyl	3-Me	H	CF_3	F	propargyl	3-Cl	H	CF_3	F
c-propyl	3-Me	H	CHF_2	F	*c*-propyl	3-Cl	H	CHF_2	F
i-Pr	3-Me	5-Cl	CF_3	F	*i*-Pr	3-Cl	5-Cl	CF_3	F
t-Bu	3-Me	H	*n*-C_3F_7	F	t-Bu	3-Cl	H	*n*-C_3F_7	F
Me	3-Me	5-Cl	*i*-C_3F_7	F	Me	3-Cl	5-Cl	*i*-C_3F_7	F
Et	3-Me	H	*i*-Pr	F	Et	3-Cl	H	*i*-Pr	F
i-Pr	3-Me	H	CF_3	F	*i*-Pr	3-Cl	H	CF_3	F
t-Bu	3-Me	H	C_2F_5	F	*t*-Bu	3-Cl	H	C_2F_5	F
propargyl	3-Me	H	C_2F_5	F	propargyl	3-Cl	H	C_2F_5	F
c-propyl	3-Me	H	CF_3	F	*c*-propyl	3-Cl	H	CF_3	F
i-Pr	3-Me	H	*n*-Pr	F	*i*-Pr	3-Cl	H	*n*-Pr	F
t-Bu	3-Me	5-Br	CH_2CH_2Cl	F	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	F
Me	3-Me	H	CF_3	Cl	Me	3-Cl	H	CF_3	Cl
Et	3-Me	5-Me	CHF_2	Cl	Et	3-Cl	5-Me	CHF_2	Cl
i-Pr	3-Me	H	CHF_2	Cl	*i*-Pr	3-Cl	H	CHF_2	Cl
t-Bu	3-Me	5-Cl	CH_2CF_3	Cl	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	Cl
Me	3-Me	H	CH_2CF_3	Cl	Me	3-Cl	H	CH_2CF_3	Cl
Et	3-Me	H	CF_2CHF_2	Cl	Et	3-Cl	H	CF_2CHF_2	Cl
i-Pr	3-Me	5-Br	CF_2CHF_2	Cl	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	Cl
t-Bu	3-Me	H	Et	Cl	*t*-Bu	3-Cl	H	Et	Cl

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
propargyl	3-Me	H	CF_3	Cl	propargyl	3-Cl	H	CF_3	Cl
c-propyl	3-Me	H	CHF_2	Cl	*c*-propyl	3-Cl	H	CHF_2	Cl
i-Pr	3-Me	5-Cl	CF_3	Cl	*i*-Pr	3-Cl	5-Cl	CF_3	Cl
t-Bu	3-Me	H	*n*-C_3F_7	Cl	t-Bu	3-Cl	H	*n*-C_3F_7	Cl
Me	3-Me	5-Cl	*i*-C_3F_7	Cl	Me	3-Cl	5-Cl	*i*-C_3F_7	Cl
Et	3-Me	H	*i*-Pr	Cl	Et	3-Cl	H	*i*-Pr	Cl
i-Pr	3-Me	H	CF_3	Cl	*i*-Pr	3-Cl	H	CF_3	Cl
t-Bu	3-Me	H	C_2F_5	Cl	*t*-Bu	3-Cl	H	C_2F_5	Cl
propargyl	3-Me	H	C_2F_5	Cl	propargyl	3-Cl	H	C_2F_5	Cl
c-propyl	3-Me	H	CF_3	Cl	*c*-propyl	3-Cl	H	CF_3	Cl
i-Pr	3-Me	H	*n*-Pr	Cl	*i*-Pr	3-Cl	H	*n*-Pr	Cl
t-Bu	3-Me	5-Br	CH_2CH_2Cl	Cl	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	Cl
Me	3-Me	H	CF_3	CF_3	Me	3-Cl	H	CF_3	CF_3
Et	3-Me	5-Me	CHF_2	CF_3	Et	3-Cl	5-Me	CHF_2	CF_3
i-Pr	3-Me	H	CHF_2	CF_3	*i*-Pr	3-Cl	H	CHF_2	CF_3
t-Bu	3-Me	5-Cl	CH_2CF_3	CF_3	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	CF_3
Me	3-Me	H	CH_2CF_3	CF_3	Me	3-Cl	H	CH_2CF_3	CF_3
Et	3-Me	H	CF_2CHF_2	CF_3	Et	3-Cl	H	CF_2CHF_2	CF_3
i-Pr	3-Me	5-Br	CF_2CHF_2	CF_3	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	CF_3
t-Bu	3-Me	H	Et	CF_3	*t*-Bu	3-Cl	H	Et	CF_3
propargyl	3-Me	H	CF_3	CF_3	propargyl	3-Cl	H	CF_3	CF_3
c-propyl	3-Me	H	CHF_2	CF_3	*c*-propyl	3-Cl	H	CHF_2	CF_3
i-Pr	3-Me	5-Cl	CF_3	CF_3	*i*-Pr	3-Cl	5-Cl	CF_3	CF_3
t-Bu	3-Me	H	*n*-C_3F_7	CF_3	t-Bu	3-Cl	H	*n*-C_3F_7	CF_3
Me	3-Me	5-Cl	*i*-C_3F_7	CF_3	Me	3-Cl	5-Cl	*i*-C_3F_7	CF_3
Et	3-Me	H	*i*-Pr	CF_3	Et	3-Cl	H	*i*-Pr	CF_3
i-Pr	3-Me	H	CF_3	CF_3	*i*-Pr	3-Cl	H	CF_3	CF_3
t-Bu	3-Me	H	C_2F_5	CF_3	*t*-Bu	3-Cl	H	C_2F_5	CF_3
propargyl	3-Me	H	C_2F_5	CF_3	propargyl	3-Cl	H	C_2F_5	CF_3
c-propyl	3-Me	H	CF_3	CF_3	*c*-propyl	3-Cl	H	CF_3	CF_3
i-Pr	3-Me	H	*n*-Pr	CF_3	*i*-Pr	3-Cl	H	*n*-Pr	CF_3
t-Bu	3-Me	5-Br	CH_2CH_2Cl	CF_3	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	CF_3
Me	3-Me	H	CF_3	Br	Me	3-Cl	H	CF_3	Br
Et	3-Me	5-Me	CHF_2	Br	Et	3-Cl	5-Me	CHF_2	Br
i-Pr	3-Me	H	CHF_2	Br	*i*-Pr	3-Cl	H	CHF_2	Br
t-Bu	3-Me	5-Cl	CH_2CF_3	Br	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	Br
Me	3-Me	H	CH_2CF_3	Br	Me	3-Cl	H	CH_2CF_3	Br

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Et	3-Me	H	CF_2CHF_2	Br	Et	3-Cl	H	CF_2CHF_2	Br
i-Pr	3-Me	5-Br	CF_2CHF_2	Br	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	Br
t-Bu	3-Me	H	Et	Br	*t*-Bu	3-Cl	H	Et	Br
propargyl	3-Me	H	CF_3	Br	propargyl	3-Cl	H	CF_3	Br
c-propyl	3-Me	H	CHF_2	Br	*c*-propyl	3-Cl	H	CHF_2	Br
i-Pr	3-Me	5-Cl	CF_3	Br	*i*-Pr	3-Cl	5-Cl	CF_3	Br
t-Bu	3-Me	H	*n*-C_3F_7	Br	t-Bu	3-Cl	H	*n*-C_3F_7	Br
Me	3-Me	5-Cl	*i*-C_3F_7	Br	Me	3-Cl	5-Cl	*i*-C_3F_7	Br
Et	3-Me	H	*i*-Pr	Br	Et	3-Cl	H	*i*-Pr	Br
i-Pr	3-Me	H	CF_3	Br	*i*-Pr	3-Cl	H	CF_3	Br
t-Bu	3-Me	H	C_2F_5	Br	*t*-Bu	3-Cl	H	C_2F_5	Br
propargyl	3-Me	H	C_2F_5	Br	propargyl	3-Cl	H	C_2F_5	Br
c-propyl	3-Me	H	CF_3	Br	*c*-propyl	3-Cl	H	CF_3	Br
i-Pr	3-Me	H	*n*-Pr	Br	*i*-Pr	3-Cl	H	*n*-Pr	Br
t-Bu	3-Me	5-Br	CH_2CH_2Cl	Br	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	Br
Me	6-Me	H	CHF_2	F	Me	6-Cl	H	CHF_2	F
Et	6-Me	H	CHF_2	F	Et	6-Cl	H	CHF_2	F
i-Pr	6-Me	H	CHF_2	F	*i*-Pr	6-Cl	H	CHF_2	F
t-Bu	6-Me	H	CHF_2	F	*t*-Bu	6-Cl	H	CHF_2	F
Me	6-Me	H	*n*-Pr	F	Me	6-Cl	H	*n*-Pr	F
Et	6-Me	H	*n*-Pr	F	Et	6-Cl	H	*n*-Pr	F
i-Pr	6-Me	H	*n*-Pr	F	*i*-Pr	6-Cl	H	*n*-Pr	F
t-Bu	6-Me	H	*n*-Pr	F	*t*-Bu	6-Cl	H	*n*-Pr	F
Me	6-Me	H	CF_3	F	Me	6-Cl	H	CF_3	F
Et	6-Me	H	CF_3	F	Et	6-Cl	H	CF_3	F
i-Pr	6-Me	H	CF_3	F	*i*-Pr	6-Cl	H	CF_3	F
t-Bu	6-Me	H	CF_3	F	*t*-Bu	6-Cl	H	CF_3	F
Me	6-Me	H	*i*-Pr	F	Me	6-Cl	H	*i*-Pr	F
Et	6-Me	H	*i*-Pr	F	Et	6-Cl	H	*i*-Pr	F
i-Pr	6-Me	H	*i*-Pr	F	*i*-Pr	6-Cl	H	*i*-Pr	F
t-Bu	6-Me	H	*i*-Pr	F	*t*-Bu	6-Cl	H	*i*-Pr	F
Me	6-Me	H	C_2F_5	F	Me	6-Cl	H	C_2F_5	F
Et	6-Me	H	C_2F_5	F	Et	6-Cl	H	C_2F_5	F
i-Pr	6-Me	H	C_2F_5	F	*i*-Pr	6-Cl	H	C_2F_5	F
t-Bu	6-Me	H	C_2F_5	F	*t*-Bu	6-Cl	H	C_2F_5	F
Me	6-Me	H	*n*-C_3F_7	F	Me	6-Cl	H	*n*-C_3F_7	F
Et	6-Me	H	*n*-C_3F_7	F	Et	6-Cl	H	*n*-C_3F_7	F

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
i-Pr	6-Me	H	*n*-C_3F_7	F	*i*-Pr	6-Cl	H	*n*-C_3F_7	F
t-Bu	6-Me	H	*n*-C_3F_7	F	*t*-Bu	6-Cl	H	*n*-C_3F_7	F
Me	6-Me	H	*i*-C_3F_7	F	Me	6-Cl	H	*i*-C_3F_7	F
Et	6-Me	H	*i*-C_3F_7	F	Et	6-Cl	H	*i*-C_3F_7	F
i-Pr	6-Me	H	*i*-C_3F_7	F	*i*-Pr	6-Cl	H	*i*-C_3F_7	F
t-Bu	6-Me	H	*i*-C_3F_7	F	*t*-Bu	6-Cl	H	*i*-C_3F_7	F
Me	6-Me	H	Et	F	Me	6-Cl	H	Et	F
Et	6-Me	H	Et	F	Et	6-Cl	H	Et	F
i-Pr	6-Me	H	Et	F	*i*-Pr	6-Cl	H	Et	F
t-Bu	6-Me	H	Et	F	*t*-Bu	6-Cl	H	Et	F
Me	6-Me	H	CHF_2	Cl	Me	6-Cl	H	CHF_2	Cl
Et	6-Me	H	CHF_2	Cl	Et	6-Cl	H	CHF_2	Cl
i-Pr	6-Me	H	CHF_2	Cl	*i*-Pr	6-Cl	H	CHF_2	Cl
t-Bu	6-Me	H	CHF_2	Cl	*t*-Bu	6-Cl	H	CHF_2	Cl
Me	6-Me	H	*n*-Pr	Cl	Me	6-Cl	H	*n*-Pr	Cl
Et	6-Me	H	*n*-Pr	Cl	Et	6-Cl	H	*n*-Pr	Cl
i-Pr	6-Me	H	*n*-Pr	Cl	*i*-Pr	6-Cl	H	*n*-Pr	Cl
t-Bu	6-Me	H	*n*-Pr	Cl	*t*-Bu	6-Cl	H	*n*-Pr	Cl
Me	6-Me	H	CF_3	Cl	Me	6-Cl	H	CF_3	Cl
Et	6-Me	H	CF_3	Cl	Et	6-Cl	H	CF_3	Cl
i-Pr	6-Me	H	CF_3	Cl	*i*-Pr	6-Cl	H	CF_3	Cl
t-Bu	6-Me	H	CF_3	Cl	*t*-Bu	6-Cl	H	CF_3	Cl
Me	6-Me	H	*i*-Pr	Cl	Me	6-Cl	H	*i*-Pr	Cl
Et	6-Me	H	*i*-Pr	Cl	Et	6-Cl	H	*i*-Pr	Cl
i-Pr	6-Me	H	*i*-Pr	Cl	*i*-Pr	6-Cl	H	*i*-Pr	Cl
t-Bu	6-Me	H	*i*-Pr	Cl	*t*-Bu	6-Cl	H	*i*-Pr	Cl
Me	6-Me	H	C_2F_5	Cl	Me	6-Cl	H	C_2F_5	Cl
Et	6-Me	H	C_2F_5	Cl	Et	6-Cl	H	C_2F_5	Cl
i-Pr	6-Me	H	C_2F_5	Cl	*i*-Pr	6-Cl	H	C_2F_5	Cl
t-Bu	6-Me	H	C_2F_5	Cl	*t*-Bu	6-Cl	H	C_2F_5	Cl
Me	6-Me	H	*n*-C_3F_7	Cl	Me	6-Cl	H	*n*-C_3F_7	Cl
Et	6-Me	H	*n*-C_3F_7	Cl	Et	6-Cl	H	*n*-C_3F_7	Cl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl
Me	6-Me	H	*i*-C_3F_7	Cl	Me	6-Cl	H	*i*-C_3F_7	Cl
Et	6-Me	H	*i*-C_3F_7	Cl	Et	6-Cl	H	*i*-C_3F_7	Cl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
t-Bu	6-Me	H	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl
Me	6-Me	H	Et	Cl	Me	6-Cl	H	Et	Cl
Et	6-Me	H	Et	Cl	Et	6-Cl	H	Et	Cl
i-Pr	6-Me	H	Et	Cl	*i*-Pr	6-Cl	H	Et	Cl
t-Bu	6-Me	H	Et	Cl	*t*-Bu	6-Cl	H	Et	Cl
Me	6-Me	H	CHF_2	Br	Me	6-Cl	H	CHF_2	Br
Et	6-Me	H	CHF_2	Br	Et	6-Cl	H	CHF_2	Br
i-Pr	6-Me	H	CHF_2	Br	*i*-Pr	6-Cl	H	CHF_2	Br
t-Bu	6-Me	H	CHF_2	Br	*t*-Bu	6-Cl	H	CHF_2	Br
Me	6-Me	H	*n*-Pr	Br	Me	6-Cl	H	*n*-Pr	Br
Et	6-Me	H	*n*-Pr	Br	Et	6-Cl	H	*n*-Pr	Br
i-Pr	6-Me	H	*n*-Pr	Br	*i*-Pr	6-Cl	H	*n*-Pr	Br
t-Bu	6-Me	H	*n*-Pr	Br	*t*-Bu	6-Cl	H	*n*-Pr	Br
Me	6-Me	H	CF_3	Br	Me	6-Cl	H	CF_3	Br
Et	6-Me	H	CF_3	Br	Et	6-Cl	H	CF_3	Br
i-Pr	6-Me	H	CF_3	Br	*i*-Pr	6-Cl	H	CF_3	Br
t-Bu	6-Me	H	CF_3	Br	*t*-Bu	6-Cl	H	CF_3	Br
Me	6-Me	H	*i*-Pr	Br	Me	6-Cl	H	*i*-Pr	Br
Et	6-Me	H	*i*-Pr	Br	Et	6-Cl	H	*i*-Pr	Br
i-Pr	6-Me	H	*i*-Pr	Br	*i*-Pr	6-Cl	H	*i*-Pr	Br
t-Bu	6-Me	H	*i*-Pr	Br	*t*-Bu	6-Cl	H	*i*-Pr	Br
Me	6-Me	H	C_2F_5	Br	Me	6-Cl	H	C_2F_5	Br
Et	6-Me	H	C_2F_5	Br	Et	6-Cl	H	C_2F_5	Br
i-Pr	6-Me	H	C_2F_5	Br	*i*-Pr	6-Cl	H	C_2F_5	Br
t-Bu	6-Me	H	C_2F_5	Br	*t*-Bu	6-Cl	H	C_2F_5	Br
Me	6-Me	H	*n*-C_3F_7	Br	Me	6-Cl	H	*n*-C_3F_7	Br
Et	6-Me	H	*n*-C_3F_7	Br	Et	6-Cl	H	*n*-C_3F_7	Br
i-Pr	6-Me	H	*n*-C_3F_7	Br	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br
t-Bu	6-Me	H	*n*-C_3F_7	Br	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br
Me	6-Me	H	*i*-C_3F_7	Br	Me	6-Cl	H	*i*-C_3F_7	Br
Et	6-Me	H	*i*-C_3F_7	Br	Et	6-Cl	H	*i*-C_3F_7	Br
i-Pr	6-Me	H	*i*-C_3F_7	Br	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br
t-Bu	6-Me	H	*i*-C_3F_7	Br	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br
Me	6-Me	H	Et	Br	Me	6-Cl	H	Et	Br
Et	6-Me	H	Et	Br	Et	6-Cl	H	Et	Br
i-Pr	6-Me	H	Et	Br	*i*-Pr	6-Cl	H	Et	Br
t-Bu	6-Me	H	Et	Br	*t*-Bu	6-Cl	H	Et	Br

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	6-Me	H	CHF_2	CF_3	Me	6-Cl	H	CHF_2	CF_3
Et	6-Me	H	CHF_2	CF_3	Et	6-Cl	H	CHF_2	CF_3
i-Pr	6-Me	H	CHF_2	CF_3	*i*-Pr	6-Cl	H	CHF_2	CF_3
t-Bu	6-Me	H	CHF_2	CF_3	*t*-Bu	6-Cl	H	CHF_2	CF_3
Me	6-Me	H	*n*-Pr	CF_3	Me	6-Cl	H	*n*-Pr	CF_3
Et	6-Me	H	*n*-Pr	CF_3	Et	6-Cl	H	*n*-Pr	CF_3
i-Pr	6-Me	H	*n*-Pr	CF_3	*i*-Pr	6-Cl	H	*n*-Pr	CF_3
t-Bu	6-Me	H	*n*-Pr	CF_3	*t*-Bu	6-Cl	H	*n*-Pr	CF_3
Me	6-Me	H	CF_3	CF_3	Me	6-Cl	H	CF_3	CF_3
Et	6-Me	H	CF_3	CF_3	Et	6-Cl	H	CF_3	CF_3
i-Pr	6-Me	H	CF_3	CF_3	*i*-Pr	6-Cl	H	CF_3	CF_3
t-Bu	6-Me	H	CF_3	CF_3	*t*-Bu	6-Cl	H	CF_3	CF_3
Me	6-Me	H	*i*-Pr	CF_3	Me	6-Cl	H	*i*-Pr	CF_3
Et	6-Me	H	*i*-Pr	CF_3	Et	6-Cl	H	*i*-Pr	CF_3
i-Pr	6-Me	H	*i*-Pr	CF_3	*i*-Pr	6-Cl	H	*i*-Pr	CF_3
t-Bu	6-Me	H	*i*-Pr	CF_3	*t*-Bu	6-Cl	H	*i*-Pr	CF_3
Me	6-Me	H	C_2F_5	CF_3	Me	6-Cl	H	C_2F_5	CF_3
Et	6-Me	H	C_2F_5	CF_3	Et	6-Cl	H	C_2F_5	CF_3
i-Pr	6-Me	H	C_2F_5	CF_3	*i*-Pr	6-Cl	H	C_2F_5	CF_3
t-Bu	6-Me	H	C_2F_5	CF_3	*t*-Bu	6-Cl	H	C_2F_5	CF_3
Me	6-Me	H	*n*-C_3F_7	CF_3	Me	6-Cl	H	*n*-C_3F_7	CF_3
Et	6-Me	H	*n*-C_3F_7	CF_3	Et	6-Cl	H	*n*-C_3F_7	CF_3
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3
Me	6-Me	H	*i*-C_3F_7	CF_3	Me	6-Cl	H	*i*-C_3F_7	CF_3
Et	6-Me	H	*i*-C_3F_7	CF_3	Et	6-Cl	H	*i*-C_3F_7	CF_3
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3
Me	6-Me	H	Et	CF_3	Me	6-Cl	H	Et	CF_3
Et	6-Me	H	Et	CF_3	Et	6-Cl	H	Et	CF_3
i-Pr	6-Me	H	Et	CF_3	*i*-Pr	6-Cl	H	Et	CF_3
t-Bu	6-Me	H	Et	CF_3	*t*-Bu	6-Cl	H	Et	CF_3
Me	6-Me	Cl	CHF_2	F	Me	6-Cl	Cl	CHF_2	F
Et	6-Me	Cl	CHF_2	F	Et	6-Cl	Cl	CHF_2	F
i-Pr	6-Me	Cl	CHF_2	F	*i*-Pr	6-Cl	Cl	CHF_2	F
t-Bu	6-Me	Cl	CHF_2	F	*t*-Bu	6-Cl	Cl	CHF_2	F
Me	6-Me	Cl	*n*-Pr	F	Me	6-Cl	Cl	*n*-Pr	F

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Et	6-Me	Cl	*n*-Pr	F	Et	6-Cl	Cl	*n*-Pr	F
i-Pr	6-Me	Cl	*n*-Pr	F	*i*-Pr	6-Cl	Cl	*n*-Pr	F
t-Bu	6-Me	Cl	*n*-Pr	F	*t*-Bu	6-Cl	Cl	*n*-Pr	F
Me	6-Me	Cl	CF_3	F	Me	6-Cl	Cl	CF_3	F
Et	6-Me	Cl	CF_3	F	Et	6-Cl	Cl	CF_3	F
i-Pr	6-Me	Cl	CF_3	F	*i*-Pr	6-Cl	Cl	CF_3	F
t-Bu	6-Me	Cl	CF_3	F	*t*-Bu	6-Cl	Cl	CF_3	F
Me	6-Me	Cl	*i*-Pr	F	Me	6-Cl	Cl	*i*-Pr	F
Et	6-Me	Cl	*i*-Pr	F	Et	6-Cl	Cl	*i*-Pr	F
i-Pr	6-Me	Cl	*i*-Pr	F	*i*-Pr	6-Cl	Cl	*i*-Pr	F
t-Bu	6-Me	Cl	*i*-Pr	F	*t*-Bu	6-Cl	Cl	*i*-Pr	F
Me	6-Me	Cl	C_2F_5	F	Me	6-Cl	Cl	C_2F_5	F
Et	6-Me	Cl	C_2F_5	F	Et	6-Cl	Cl	C_2F_5	F
i-Pr	6-Me	Cl	C_2F_5	F	*i*-Pr	6-Cl	Cl	C_2F_5	F
t-Bu	6-Me	Cl	C_2F_5	F	*t*-Bu	6-Cl	Cl	C_2F_5	F
Me	6-Me	Cl	*n*-C_3F_7	F	Me	6-Cl	Cl	*n*-C_3F_7	F
Et	6-Me	Cl	*n*-C_3F_7	F	Et	6-Cl	Cl	*n*-C_3F_7	F
i-Pr	6-Me	Cl	*n*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F
t-Bu	6-Me	Cl	*n*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F
Me	6-Me	Cl	*i*-C_3F_7	F	Me	6-Cl	Cl	*i*-C_3F_7	F
Et	6-Me	Cl	*i*-C_3F_7	F	Et	6-Cl	Cl	*i*-C_3F_7	F
i-Pr	6-Me	Cl	*i*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F
t-Bu	6-Me	Cl	*i*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F
Me	6-Me	Cl	Et	F	Me	6-Cl	Cl	Et	F
Et	6-Me	Cl	Et	F	Et	6-Cl	Cl	Et	F
i-Pr	6-Me	Cl	Et	F	*i*-Pr	6-Cl	Cl	Et	F
t-Bu	6-Me	Cl	Et	F	*t*-Bu	6-Cl	Cl	Et	F
Me	6-Me	Cl	CHF_2	Cl	Me	6-Cl	Cl	CHF_2	Cl
Et	6-Me	Cl	CHF_2	Cl	Et	6-Cl	Cl	CHF_2	Cl
i-Pr	6-Me	Cl	CHF_2	Cl	*i*-Pr	6-Cl	Cl	CHF_2	Cl
t-Bu	6-Me	Cl	CHF_2	Cl	*t*-Bu	6-Cl	Cl	CHF_2	Cl
Me	6-Me	Cl	*n*-Pr	Cl	Me	6-Cl	Cl	*n*-Pr	Cl
Et	6-Me	Cl	*n*-Pr	Cl	Et	6-Cl	Cl	*n*-Pr	Cl
i-Pr	6-Me	Cl	*n*-Pr	Cl	*i*-Pr	6-Cl	Cl	*n*-Pr	Cl
t-Bu	6-Me	Cl	*n*-Pr	Cl	*t*-Bu	6-Cl	Cl	*n*-Pr	Cl
Me	6-Me	Cl	CF_3	Cl	Me	6-Cl	Cl	CF_3	Cl
Et	6-Me	Cl	CF_3	Cl	Et	6-Cl	Cl	CF_3	Cl

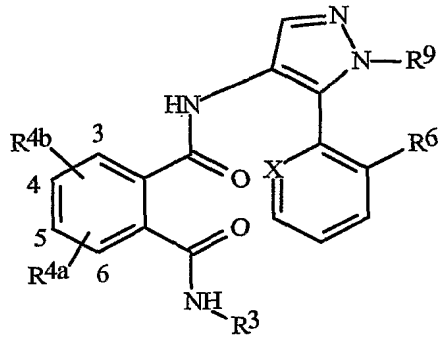
R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
i-Pr	6-Me	Cl	CF_3	Cl	*i*-Pr	6-Cl	Cl	CF_3	Cl
t-Bu	6-Me	Cl	CF_3	Cl	*t*-Bu	6-Cl	Cl	CF_3	Cl
Me	6-Me	Cl	*i*-Pr	Cl	Me	6-Cl	Cl	*i*-Pr	Cl
Et	6-Me	Cl	*i*-Pr	Cl	Et	6-Cl	Cl	*i*-Pr	Cl
i-Pr	6-Me	Cl	*i*-Pr	Cl	*i*-Pr	6-Cl	Cl	*i*-Pr	Cl
t-Bu	6-Me	Cl	*i*-Pr	Cl	*t*-Bu	6-Cl	Cl	*i*-Pr	Cl
Me	6-Me	Cl	C_2F_5	Cl	Me	6-Cl	Cl	C_2F_5	Cl
Et	6-Me	Cl	C_2F_5	Cl	Et	6-Cl	Cl	C_2F_5	Cl
i-Pr	6-Me	Cl	C_2F_5	Cl	*i*-Pr	6-Cl	Cl	C_2F_5	Cl
t-Bu	6-Me	Cl	C_2F_5	Cl	*t*-Bu	6-Cl	Cl	C_2F_5	Cl
Me	6-Me	Cl	*n*-C_3F_7	Cl	Me	6-Cl	Cl	*n*-C_3F_7	Cl
Et	6-Me	Cl	*n*-C_3F_7	Cl	Et	6-Cl	Cl	*n*-C_3F_7	Cl
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl
Me	6-Me	Cl	*i*-C_3F_7	Cl	Me	6-Cl	Cl	*i*-C_3F_7	Cl
Et	6-Me	Cl	*i*-C_3F_7	Cl	Et	6-Cl	Cl	*i*-C_3F_7	Cl
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl
Me	6-Me	Cl	Et	Cl	Me	6-Cl	Cl	Et	Cl
Et	6-Me	Cl	Et	Cl	Et	6-Cl	Cl	Et	Cl
i-Pr	6-Me	Cl	Et	Cl	*i*-Pr	6-Cl	Cl	Et	Cl
t-Bu	6-Me	Cl	Et	Cl	*t*-Bu	6-Cl	Cl	Et	Cl
Me	6-Me	Cl	CHF_2	Br	Me	6-Cl	Cl	CHF_2	Br
Et	6-Me	Cl	CHF_2	Br	Et	6-Cl	Cl	CHF_2	Br
i-Pr	6-Me	Cl	CHF_2	Br	*i*-Pr	6-Cl	Cl	CHF_2	Br
t-Bu	6-Me	Cl	CHF_2	Br	*t*-Bu	6-Cl	Cl	CHF_2	Br
Me	6-Me	Cl	*n*-Pr	Br	Me	6-Cl	Cl	*n*-Pr	Br
Et	6-Me	Cl	*n*-Pr	Br	Et	6-Cl	Cl	*n*-Pr	Br
i-Pr	6-Me	Cl	*n*-Pr	Br	*i*-Pr	6-Cl	Cl	*n*-Pr	Br
t-Bu	6-Me	Cl	*n*-Pr	Br	*t*-Bu	6-Cl	Cl	*n*-Pr	Br
Me	6-Me	Cl	CF_3	Br	Me	6-Cl	Cl	CF_3	Br
Et	6-Me	Cl	CF_3	Br	Et	6-Cl	Cl	CF_3	Br
i-Pr	6-Me	Cl	CF_3	Br	*i*-Pr	6-Cl	Cl	CF_3	Br
t-Bu	6-Me	Cl	CF_3	Br	*t*-Bu	6-Cl	Cl	CF_3	Br
Me	6-Me	Cl	*i*-Pr	Br	Me	6-Cl	Cl	*i*-Pr	Br
Et	6-Me	Cl	*i*-Pr	Br	Et	6-Cl	Cl	*i*-Pr	Br
i-Pr	6-Me	Cl	*i*-Pr	Br	*i*-Pr	6-Cl	Cl	*i*-Pr	Br

R^3	R^{4a}	R^{4b}	R^9	R^6
t-Bu	6-Me	Cl	*i*-Pr	Br
Me	6-Me	Cl	C_2F_5	Br
Et	6-Me	Cl	C_2F_5	Br
i-Pr	6-Me	Cl	C_2F_5	Br
t-Bu	6-Me	Cl	C_2F_5	Br
Me	6-Me	Cl	*n*-C_3F_7	Br
Et	6-Me	Cl	*n*-C_3F_7	Br
i-Pr	6-Me	Cl	*n*-C_3F_7	Br
t-Bu	6-Me	Cl	*n*-C_3F_7	Br
Me	6-Me	Cl	*i*-C_3F_7	Br
Et	6-Me	Cl	*i*-C_3F_7	Br
i-Pr	6-Me	Cl	*i*-C_3F_7	Br
t-Bu	6-Me	Cl	*i*-C_3F_7	Br
Me	6-Me	Cl	Et	Br
Et	6-Me	Cl	Et	Br
i-Pr	6-Me	Cl	Et	Br
t-Bu	6-Me	Cl	Et	Br
Me	6-Me	Cl	CHF_2	CF_3
Et	6-Me	Cl	CHF_2	CF_3
i-Pr	6-Me	Cl	CHF_2	CF_3
t-Bu	6-Me	Cl	CHF_2	CF_3
Me	6-Me	Cl	*n*-Pr	CF_3
Et	6-Me	Cl	*n*-Pr	CF_3
i-Pr	6-Me	Cl	*n*-Pr	CF_3
t-Bu	6-Me	Cl	*n*-Pr	CF_3
Me	6-Me	Cl	CF_3	CF_3
Et	6-Me	Cl	CF_3	CF_3
i-Pr	6-Me	Cl	CF_3	CF_3
t-Bu	6-Me	Cl	CF_3	CF_3
Me	6-Me	Cl	*i*-Pr	CF_3
Et	6-Me	Cl	*i*-Pr	CF_3
i-Pr	6-Me	Cl	*i*-Pr	CF_3
t-Bu	6-Me	Cl	*i*-Pr	CF_3
Me	6-Me	Cl	C_2F_5	CF_3
Et	6-Me	Cl	C_2F_5	CF_3
i-Pr	6-Me	Cl	C_2F_5	CF_3
t-Bu	6-Me	Cl	C_2F_5	CF_3

R^3	R^{4a}	R^{4b}	R^9	R^6
t-Bu	6-Cl	Cl	*i*-Pr	Br
Me	6-Cl	Cl	C_2F_5	Br
Et	6-Cl	Cl	C_2F_5	Br
i-Pr	6-Cl	Cl	C_2F_5	Br
t-Bu	6-Cl	Cl	C_2F_5	Br
Me	6-Cl	Cl	*n*-C_3F_7	Br
Et	6-Cl	Cl	*n*-C_3F_7	Br
i-Pr	6-Cl	Cl	*n*-C_3F_7	Br
t-Bu	6-Cl	Cl	*n*-C_3F_7	Br
Me	6-Cl	Cl	*i*-C_3F_7	Br
Et	6-Cl	Cl	*i*-C_3F_7	Br
i-Pr	6-Cl	Cl	*i*-C_3F_7	Br
t-Bu	6-Cl	Cl	*i*-C_3F_7	Br
Me	6-Cl	Cl	Et	Br
Et	6-Cl	Cl	Et	Br
i-Pr	6-Cl	Cl	Et	Br
t-Bu	6-Cl	Cl	Et	Br
Me	6-Cl	Cl	CHF_2	CF_3
Et	6-Cl	Cl	CHF_2	CF_3
i-Pr	6-Cl	Cl	CHF_2	CF_3
t-Bu	6-Cl	Cl	CHF_2	CF_3
Me	6-Cl	Cl	*n*-Pr	CF_3
Et	6-Cl	Cl	*n*-Pr	CF_3
i-Pr	6-Cl	Cl	*n*-Pr	CF_3
t-Bu	6-Cl	Cl	*n*-Pr	CF_3
Me	6-Cl	Cl	CF_3	CF_3
Et	6-Cl	Cl	CF_3	CF_3
i-Pr	6-Cl	Cl	CF_3	CF_3
t-Bu	6-Cl	Cl	CF_3	CF_3
Me	6-Cl	Cl	*i*-Pr	CF_3
Et	6-Cl	Cl	*i*-Pr	CF_3
i-Pr	6-Cl	Cl	*i*-Pr	CF_3
t-Bu	6-Cl	Cl	*i*-Pr	CF_3
Me	6-Cl	Cl	C_2F_5	CF_3
Et	6-Cl	Cl	C_2F_5	CF_3
i-Pr	6-Cl	Cl	C_2F_5	CF_3
t-Bu	6-Cl	Cl	C_2F_5	CF_3

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	6-Me	Cl	n-C_3F_7	CF_3	Me	6-Cl	Cl	n-C_3F_7	CF_3
Et	6-Me	Cl	n-C_3F_7	CF_3	Et	6-Cl	Cl	n-C_3F_7	CF_3
i-Pr	6-Me	Cl	n-C_3F_7	CF_3	i-Pr	6-Cl	Cl	n-C_3F_7	CF_3
t-Bu	6-Me	Cl	n-C_3F_7	CF_3	t-Bu	6-Cl	Cl	n-C_3F_7	CF_3
Me	6-Me	Cl	i-C_3F_7	CF_3	Me	6-Cl	Cl	i-C_3F_7	CF_3
Et	6-Me	Cl	i-C_3F_7	CF_3	Et	6-Cl	Cl	i-C_3F_7	CF_3
i-Pr	6-Me	Cl	i-C_3F_7	CF_3	i-Pr	6-Cl	Cl	i-C_3F_7	CF_3
t-Bu	6-Me	Cl	i-C_3F_7	CF_3	t-Bu	6-Cl	Cl	i-C_3F_7	CF_3
Me	6-Me	Cl	Et	CF_3	Me	6-Cl	Cl	Et	CF_3
Et	6-Me	Cl	Et	CF_3	Et	6-Cl	Cl	Et	CF_3
i-Pr	6-Me	Cl	Et	CF_3	i-Pr	6-Cl	Cl	Et	CF_3
t-Bu	6-Me	Cl	Et	CF_3	t-Bu	6-Cl	Cl	Et	CF_3

Table 12



R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Me	6-Me	H	CHF_2	F	CH	Me	6-Cl	H	CHF_2	F	CH
Et	6-Me	H	CHF_2	F	CH	Et	6-Cl	H	CHF_2	F	CH
i-Pr	6-Me	H	CHF_2	F	CH	i-Pr	6-Cl	H	CHF_2	F	CH
t-Bu	6-Me	H	CHF_2	F	CH	t-Bu	6-Cl	H	CHF_2	F	CH
Me	6-Me	H	n-Pr	F	CH	Me	6-Cl	H	n-Pr	F	CH
Et	6-Me	H	n-Pr	F	CH	Et	6-Cl	H	n-Pr	F	CH
i-Pr	6-Me	H	n-Pr	F	CH	i-Pr	6-Cl	H	n-Pr	F	CH
t-Bu	6-Me	H	n-Pr	F	CH	t-Bu	6-Cl	H	n-Pr	F	CH
Me	6-Me	H	CF_3	F	CH	Me	6-Cl	H	CF_3	F	CH
Et	6-Me	H	CF_3	F	CH	Et	6-Cl	H	CF_3	F	CH
i-Pr	6-Me	H	CF_3	F	CH	i-Pr	6-Cl	H	CF_3	F	CH
t-Bu	6-Me	H	CF_3	F	CH	t-Bu	6-Cl	H	CF_3	F	CH
Me	6-Me	H	i-Pr	F	CH	Me	6-Cl	H	i-Pr	F	CH
Et	6-Me	H	i-Pr	F	CH	Et	6-Cl	H	i-Pr	F	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
i-Pr	6-Me	H	*i*-Pr	F	CH	*i*-Pr	6-Cl	H	*i*-Pr	F	CH
t-Bu	6-Me	H	*i*-Pr	F	CH	*t*-Bu	6-Cl	H	*i*-Pr	F	CH
Me	6-Me	H	C_2F_5	F	CH	Me	6-Cl	H	C_2F_5	F	CH
Et	6-Me	H	C_2F_5	F	CH	Et	6-Cl	H	C_2F_5	F	CH
i-Pr	6-Me	H	C_2F_5	F	CH	*i*-Pr	6-Cl	H	C_2F_5	F	CH
t-Bu	6-Me	H	C_2F_5	F	CH	*t*-Bu	6-Cl	H	C_2F_5	F	CH
Me	6-Me	H	*n*-C_3F_7	F	CH	Me	6-Cl	H	*n*-C_3F_7	F	CH
Et	6-Me	H	*n*-C_3F_7	F	CH	Et	6-Cl	H	*n*-C_3F_7	F	CH
i-Pr	6-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CH
t-Bu	6-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CH
Me	6-Me	H	*i*-C_3F_7	F	CH	Me	6-Cl	H	*i*-C_3F_7	F	CH
Et	6-Me	H	*i*-C_3F_7	F	CH	Et	6-Cl	H	*i*-C_3F_7	F	CH
i-Pr	6-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CH
t-Bu	6-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CH
Me	6-Me	H	Et	F	CH	Me	6-Cl	H	Et	F	CH
Et	6-Me	H	Et	F	CH	Et	6-Cl	H	Et	F	CH
i-Pr	6-Me	H	Et	F	CH	*i*-Pr	6-Cl	H	Et	F	CH
t-Bu	6-Me	H	Et	F	CH	*t*-Bu	6-Cl	H	Et	F	CH
Me	6-Me	H	CHF_2	Cl	CH	Me	6-Cl	H	CHF_2	Cl	CH
Et	6-Me	H	CHF_2	Cl	CH	Et	6-Cl	H	CHF_2	Cl	CH
i-Pr	6-Me	H	CHF_2	Cl	CH	*i*-Pr	6-Cl	H	CHF_2	Cl	CH
t-Bu	6-Me	H	CHF_2	Cl	CH	*t*-Bu	6-Cl	H	CHF_2	Cl	CH
Me	6-Me	H	*n*-Pr	Cl	CH	Me	6-Cl	H	*n*-Pr	Cl	CH
Et	6-Me	H	*n*-Pr	Cl	CH	Et	6-Cl	H	*n*-Pr	Cl	CH
i-Pr	6-Me	H	*n*-Pr	Cl	CH	*i*-Pr	6-Cl	H	*n*-Pr	Cl	CH
t-Bu	6-Me	H	*n*-Pr	Cl	CH	*t*-Bu	6-Cl	H	*n*-Pr	Cl	CH
Me	6-Me	H	CF_3	Cl	CH	Me	6-Cl	H	CF_3	Cl	CH
Et	6-Me	H	CF_3	Cl	CH	Et	6-Cl	H	CF_3	Cl	CH
i-Pr	6-Me	H	CF_3	Cl	CH	*i*-Pr	6-Cl	H	CF_3	Cl	CH
t-Bu	6-Me	H	CF_3	Cl	CH	*t*-Bu	6-Cl	H	CF_3	Cl	CH
Me	6-Me	H	*i*-Pr	Cl	CH	Me	6-Cl	H	*i*-Pr	Cl	CH
Et	6-Me	H	*i*-Pr	Cl	CH	Et	6-Cl	H	*i*-Pr	Cl	CH
i-Pr	6-Me	H	*i*-Pr	Cl	CH	*i*-Pr	6-Cl	H	*i*-Pr	Cl	CH
t-Bu	6-Me	H	*i*-Pr	Cl	CH	*t*-Bu	6-Cl	H	*i*-Pr	Cl	CH
Me	6-Me	H	C_2F_5	Cl	CH	Me	6-Cl	H	C_2F_5	Cl	CH
Et	6-Me	H	C_2F_5	Cl	CH	Et	6-Cl	H	C_2F_5	Cl	CH
i-Pr	6-Me	H	C_2F_5	Cl	CH	*i*-Pr	6-Cl	H	C_2F_5	Cl	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
t-Bu	6-Me	H	C_2F_5	Cl	CH	*t*-Bu	6-Cl	H	C_2F_5	Cl	CH
Me	6-Me	H	*n*-C_3F_7	Cl	CH	Me	6-Cl	H	*n*-C_3F_7	Cl	CH
Et	6-Me	H	*n*-C_3F_7	Cl	CH	Et	6-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CH
Me	6-Me	H	*i*-C_3F_7	Cl	CH	Me	6-Cl	H	*i*-C_3F_7	Cl	CH
Et	6-Me	H	*i*-C_3F_7	Cl	CH	Et	6-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CH
Me	6-Me	H	Et	Cl	CH	Me	6-Cl	H	Et	Cl	CH
Et	6-Me	H	Et	Cl	CH	Et	6-Cl	H	Et	Cl	CH
i-Pr	6-Me	H	Et	Cl	CH	*i*-Pr	6-Cl	H	Et	Cl	CH
t-Bu	6-Me	H	Et	Cl	CH	*t*-Bu	6-Cl	H	Et	Cl	CH
Me	6-Me	H	CHF_2	Br	CH	Me	6-Cl	H	CHF_2	Br	CH
Et	6-Me	H	CHF_2	Br	CH	Et	6-Cl	H	CHF_2	Br	CH
i-Pr	6-Me	H	CHF_2	Br	CH	*i*-Pr	6-Cl	H	CHF_2	Br	CH
t-Bu	6-Me	H	CHF_2	Br	CH	*t*-Bu	6-Cl	H	CHF_2	Br	CH
Me	6-Me	H	*n*-Pr	Br	CH	Me	6-Cl	H	*n*-Pr	Br	CH
Et	6-Me	H	*n*-Pr	Br	CH	Et	6-Cl	H	*n*-Pr	Br	CH
i-Pr	6-Me	H	*n*-Pr	Br	CH	*i*-Pr	6-Cl	H	*n*-Pr	Br	CH
t-Bu	6-Me	H	*n*-Pr	Br	CH	*t*-Bu	6-Cl	H	*n*-Pr	Br	CH
Me	6-Me	H	CF_3	Br	CH	Me	6-Cl	H	CF_3	Br	CH
Et	6-Me	H	CF_3	Br	CH	Et	6-Cl	H	CF_3	Br	CH
i-Pr	6-Me	H	CF_3	Br	CH	*i*-Pr	6-Cl	H	CF_3	Br	CH
t-Bu	6-Me	H	CF_3	Br	CH	*t*-Bu	6-Cl	H	CF_3	Br	CH
Me	6-Me	H	*i*-Pr	Br	CH	Me	6-Cl	H	*i*-Pr	Br	CH
Et	6-Me	H	*i*-Pr	Br	CH	Et	6-Cl	H	*i*-Pr	Br	CH
i-Pr	6-Me	H	*i*-Pr	Br	CH	*i*-Pr	6-Cl	H	*i*-Pr	Br	CH
t-Bu	6-Me	H	*i*-Pr	Br	CH	*t*-Bu	6-Cl	H	*i*-Pr	Br	CH
Me	6-Me	H	C_2F_5	Br	CH	Me	6-Cl	H	C_2F_5	Br	CH
Et	6-Me	H	C_2F_5	Br	CH	Et	6-Cl	H	C_2F_5	Br	CH
i-Pr	6-Me	H	C_2F_5	Br	CH	*i*-Pr	6-Cl	H	C_2F_5	Br	CH
t-Bu	6-Me	H	C_2F_5	Br	CH	*t*-Bu	6-Cl	H	C_2F_5	Br	CH
Me	6-Me	H	*n*-C_3F_7	Br	CH	Me	6-Cl	H	*n*-C_3F_7	Br	CH
Et	6-Me	H	*n*-C_3F_7	Br	CH	Et	6-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	6-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	6-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Me	6-Me	H	i-C_3F_7	Br	CH	Me	6-Cl	H	i-C_3F_7	Br	CH
Et	6-Me	H	i-C_3F_7	Br	CH	Et	6-Cl	H	i-C_3F_7	Br	CH
i-Pr	6-Me	H	i-C_3F_7	Br	CH	i-Pr	6-Cl	H	i-C_3F_7	Br	CH
t-Bu	6-Me	H	i-C_3F_7	Br	CH	t-Bu	6-Cl	H	i-C_3F_7	Br	CH
Me	6-Me	H	Et	Br	CH	Me	6-Cl	H	Et	Br	CH
Et	6-Me	H	Et	Br	CH	Et	6-Cl	H	Et	Br	CH
i-Pr	6-Me	H	Et	Br	CH	i-Pr	6-Cl	H	Et	Br	CH
t-Bu	6-Me	H	Et	Br	CH	t-Bu	6-Cl	H	Et	Br	CH
Me	6-Me	H	CHF_2	CF_3	CH	Me	6-Cl	H	CHF_2	CF_3	CH
Et	6-Me	H	CHF_2	CF_3	CH	Et	6-Cl	H	CHF_2	CF_3	CH
i-Pr	6-Me	H	CHF_2	CF_3	CH	i-Pr	6-Cl	H	CHF_2	CF_3	CH
t-Bu	6-Me	H	CHF_2	CF_3	CH	t-Bu	6-Cl	H	CHF_2	CF_3	CH
Me	6-Me	H	n-Pr	CF_3	CH	Me	6-Cl	H	n-Pr	CF_3	CH
Et	6-Me	H	n-Pr	CF_3	CH	Et	6-Cl	H	n-Pr	CF_3	CH
i-Pr	6-Me	H	n-Pr	CF_3	CH	i-Pr	6-Cl	H	n-Pr	CF_3	CH
t-Bu	6-Me	H	n-Pr	CF_3	CH	t-Bu	6-Cl	H	n-Pr	CF_3	CH
Me	6-Me	H	CF_3	CF_3	CH	Me	6-Cl	H	CF_3	CF_3	CH
Et	6-Me	H	CF_3	CF_3	CH	Et	6-Cl	H	CF_3	CF_3	CH
i-Pr	6-Me	H	CF_3	CF_3	CH	i-Pr	6-Cl	H	CF_3	CF_3	CH
t-Bu	6-Me	H	CF_3	CF_3	CH	t-Bu	6-Cl	H	CF_3	CF_3	CH
Me	6-Me	H	i-Pr	CF_3	CH	Me	6-Cl	H	i-Pr	CF_3	CH
Et	6-Me	H	i-Pr	CF_3	CH	Et	6-Cl	H	i-Pr	CF_3	CH
i-Pr	6-Me	H	i-Pr	CF_3	CH	i-Pr	6-Cl	H	i-Pr	CF_3	CH
t-Bu	6-Me	H	i-Pr	CF_3	CH	t-Bu	6-Cl	H	i-Pr	CF_3	CH
Me	6-Me	H	C_2F_5	CF_3	CH	Me	6-Cl	H	C_2F_5	CF_3	CH
Et	6-Me	H	C_2F_5	CF_3	CH	Et	6-Cl	H	C_2F_5	CF_3	CH
i-Pr	6-Me	H	C_2F_5	CF_3	CH	i-Pr	6-Cl	H	C_2F_5	CF_3	CH
t-Bu	6-Me	H	C_2F_5	CF_3	CH	t-Bu	6-Cl	H	C_2F_5	CF_3	CH
Me	6-Me	H	n-C_3F_7	CF_3	CH	Me	6-Cl	H	n-C_3F_7	CF_3	CH
Et	6-Me	H	n-C_3F_7	CF_3	CH	Et	6-Cl	H	n-C_3F_7	CF_3	CH
i-Pr	6-Me	H	n-C_3F_7	CF_3	CH	i-Pr	6-Cl	H	n-C_3F_7	CF_3	CH
t-Bu	6-Me	H	n-C_3F_7	CF_3	CH	t-Bu	6-Cl	H	n-C_3F_7	CF_3	CH
Me	6-Me	H	i-C_3F_7	CF_3	CH	Me	6-Cl	H	i-C_3F_7	CF_3	CH
Et	6-Me	H	i-C_3F_7	CF_3	CH	Et	6-Cl	H	i-C_3F_7	CF_3	CH
i-Pr	6-Me	H	i-C_3F_7	CF_3	CH	i-Pr	6-Cl	H	i-C_3F_7	CF_3	CH
t-Bu	6-Me	H	i-C_3F_7	CF_3	CH	t-Bu	6-Cl	H	i-C_3F_7	CF_3	CH
Me	6-Me	H	Et	CF_3	CH	Me	6-Cl	H	Et	CF_3	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Et	6-Me	H	Et	CF_3	CH	Et	6-Cl	H	Et	CF_3	CH
i-Pr	6-Me	H	Et	CF_3	CH	*i*-Pr	6-Cl	H	Et	CF_3	CH
t-Bu	6-Me	H	Et	CF_3	CH	*t*-Bu	6-Cl	H	Et	CF_3	CH
Me	6-Me	Cl	CHF_2	F	CH	Me	6-Cl	Cl	CHF_2	F	CH
Et	6-Me	Cl	CHF_2	F	CH	Et	6-Cl	Cl	CHF_2	F	CH
i-Pr	6-Me	Cl	CHF_2	F	CH	*i*-Pr	6-Cl	Cl	CHF_2	F	CH
t-Bu	6-Me	Cl	CHF_2	F	CH	*t*-Bu	6-Cl	Cl	CHF_2	F	CH
Me	6-Me	Cl	*n*-Pr	F	CH	Me	6-Cl	Cl	*n*-Pr	F	CH
Et	6-Me	Cl	*n*-Pr	F	CH	Et	6-Cl	Cl	*n*-Pr	F	CH
i-Pr	6-Me	Cl	*n*-Pr	F	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	F	CH
t-Bu	6-Me	Cl	*n*-Pr	F	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	F	CH
Me	6-Me	Cl	CF_3	F	CH	Me	6-Cl	Cl	CF_3	F	CH
Et	6-Me	Cl	CF_3	F	CH	Et	6-Cl	Cl	CF_3	F	CH
i-Pr	6-Me	Cl	CF_3	F	CH	*i*-Pr	6-Cl	Cl	CF_3	F	CH
t-Bu	6-Me	Cl	CF_3	F	CH	*t*-Bu	6-Cl	Cl	CF_3	F	CH
Me	6-Me	Cl	*i*-Pr	F	CH	Me	6-Cl	Cl	*i*-Pr	F	CH
Et	6-Me	Cl	*i*-Pr	F	CH	Et	6-Cl	Cl	*i*-Pr	F	CH
i-Pr	6-Me	Cl	*i*-Pr	F	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	F	CH
t-Bu	6-Me	Cl	*i*-Pr	F	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	F	CH
Me	6-Me	Cl	C_2F_5	F	CH	Me	6-Cl	Cl	C_2F_5	F	CH
Et	6-Me	Cl	C_2F_5	F	CH	Et	6-Cl	Cl	C_2F_5	F	CH
i-Pr	6-Me	Cl	C_2F_5	F	CH	*i*-Pr	6-Cl	Cl	C_2F_5	F	CH
t-Bu	6-Me	Cl	C_2F_5	F	CH	*t*-Bu	6-Cl	Cl	C_2F_5	F	CH
Me	6-Me	Cl	*n*-C_3F_7	F	CH	Me	6-Cl	Cl	*n*-C_3F_7	F	CH
Et	6-Me	Cl	*n*-C_3F_7	F	CH	Et	6-Cl	Cl	*n*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F	CH
Me	6-Me	Cl	*i*-C_3F_7	F	CH	Me	6-Cl	Cl	*i*-C_3F_7	F	CH
Et	6-Me	Cl	*i*-C_3F_7	F	CH	Et	6-Cl	Cl	*i*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F	CH
Me	6-Me	Cl	Et	F	CH	Me	6-Cl	Cl	Et	F	CH
Et	6-Me	Cl	Et	F	CH	Et	6-Cl	Cl	Et	F	CH
i-Pr	6-Me	Cl	Et	F	CH	*i*-Pr	6-Cl	Cl	Et	F	CH
t-Bu	6-Me	Cl	Et	F	CH	*t*-Bu	6-Cl	Cl	Et	F	CH
Me	6-Me	Cl	CHF_2	Cl	CH	Me	6-Cl	Cl	CHF_2	Cl	CH
Et	6-Me	Cl	CHF_2	Cl	CH	Et	6-Cl	Cl	CHF_2	Cl	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
i-Pr	6-Me	Cl	CHF_2	Cl	CH	*i*-Pr	6-Cl	Cl	CHF_2	Cl	CH
t-Bu	6-Me	Cl	CHF_2	Cl	CH	*t*-Bu	6-Cl	Cl	CHF_2	Cl	CH
Me	6-Me	Cl	*n*-Pr	Cl	CH	Me	6-Cl	Cl	*n*-Pr	Cl	CH
Et	6-Me	Cl	*n*-Pr	Cl	CH	Et	6-Cl	Cl	*n*-Pr	Cl	CH
i-Pr	6-Me	Cl	*n*-Pr	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	Cl	CH
t-Bu	6-Me	Cl	*n*-Pr	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	Cl	CH
Me	6-Me	Cl	CF_3	Cl	CH	Me	6-Cl	Cl	CF_3	Cl	CH
Et	6-Me	Cl	CF_3	Cl	CH	Et	6-Cl	Cl	CF_3	Cl	CH
i-Pr	6-Me	Cl	CF_3	Cl	CH	*i*-Pr	6-Cl	Cl	CF_3	Cl	CH
t-Bu	6-Me	Cl	CF_3	Cl	CH	*t*-Bu	6-Cl	Cl	CF_3	Cl	CH
Me	6-Me	Cl	*i*-Pr	Cl	CH	Me	6-Cl	Cl	*i*-Pr	Cl	CH
Et	6-Me	Cl	*i*-Pr	Cl	CH	Et	6-Cl	Cl	*i*-Pr	Cl	CH
i-Pr	6-Me	Cl	*i*-Pr	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	Cl	CH
t-Bu	6-Me	Cl	*i*-Pr	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	Cl	CH
Me	6-Me	Cl	C_2F_5	Cl	CH	Me	6-Cl	Cl	C_2F_5	Cl	CH
Et	6-Me	Cl	C_2F_5	Cl	CH	Et	6-Cl	Cl	C_2F_5	Cl	CH
i-Pr	6-Me	Cl	C_2F_5	Cl	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Cl	CH
t-Bu	6-Me	Cl	C_2F_5	Cl	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Cl	CH
Me	6-Me	Cl	*n*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Et	6-Me	Cl	*n*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Me	6-Me	Cl	*i*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Et	6-Me	Cl	*i*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Me	6-Me	Cl	Et	Cl	CH	Me	6-Cl	Cl	Et	Cl	CH
Et	6-Me	Cl	Et	Cl	CH	Et	6-Cl	Cl	Et	Cl	CH
i-Pr	6-Me	Cl	Et	Cl	CH	*i*-Pr	6-Cl	Cl	Et	Cl	CH
t-Bu	6-Me	Cl	Et	Cl	CH	*t*-Bu	6-Cl	Cl	Et	Cl	CH
Me	6-Me	Cl	CHF_2	Br	CH	Me	6-Cl	Cl	CHF_2	Br	CH
Et	6-Me	Cl	CHF_2	Br	CH	Et	6-Cl	Cl	CHF_2	Br	CH
i-Pr	6-Me	Cl	CHF_2	Br	CH	*i*-Pr	6-Cl	Cl	CHF_2	Br	CH
t-Bu	6-Me	Cl	CHF_2	Br	CH	*t*-Bu	6-Cl	Cl	CHF_2	Br	CH
Me	6-Me	Cl	*n*-Pr	Br	CH	Me	6-Cl	Cl	*n*-Pr	Br	CH
Et	6-Me	Cl	*n*-Pr	Br	CH	Et	6-Cl	Cl	*n*-Pr	Br	CH
i-Pr	6-Me	Cl	*n*-Pr	Br	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	Br	CH

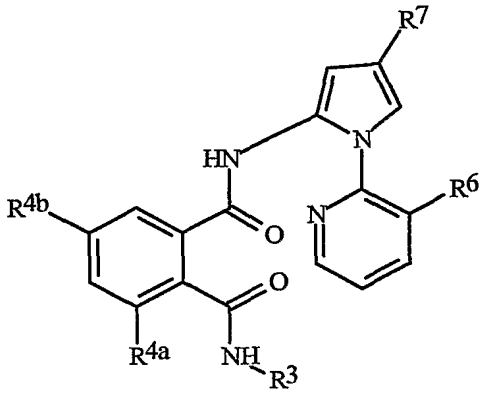
R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
t-Bu	6-Me	Cl	*n*-Pr	Br	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	Br	CH
Me	6-Me	Cl	CF_3	Br	CH	Me	6-Cl	Cl	CF_3	Br	CH
Et	6-Me	Cl	CF_3	Br	CH	Et	6-Cl	Cl	CF_3	Br	CH
i-Pr	6-Me	Cl	CF_3	Br	CH	*i*-Pr	6-Cl	Cl	CF_3	Br	CH
t-Bu	6-Me	Cl	CF_3	Br	CH	*t*-Bu	6-Cl	Cl	CF_3	Br	CH
Me	6-Me	Cl	*i*-Pr	Br	CH	Me	6-Cl	Cl	*i*-Pr	Br	CH
Et	6-Me	Cl	*i*-Pr	Br	CH	Et	6-Cl	Cl	*i*-Pr	Br	CH
i-Pr	6-Me	Cl	*i*-Pr	Br	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	Br	CH
t-Bu	6-Me	Cl	*i*-Pr	Br	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	Br	CH
Me	6-Me	Cl	C_2F_5	Br	CH	Me	6-Cl	Cl	C_2F_5	Br	CH
Et	6-Me	Cl	C_2F_5	Br	CH	Et	6-Cl	Cl	C_2F_5	Br	CH
i-Pr	6-Me	Cl	C_2F_5	Br	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Br	CH
t-Bu	6-Me	Cl	C_2F_5	Br	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Br	CH
Me	6-Me	Cl	*n*-C_3F_7	Br	CH	Me	6-Cl	Cl	*n*-C_3F_7	Br	CH
Et	6-Me	Cl	*n*-C_3F_7	Br	CH	Et	6-Cl	Cl	*n*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br	CH
Me	6-Me	Cl	*i*-C_3F_7	Br	CH	Me	6-Cl	Cl	*i*-C_3F_7	Br	CH
Et	6-Me	Cl	*i*-C_3F_7	Br	CH	Et	6-Cl	Cl	*i*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br	CH
Me	6-Me	Cl	Et	Br	CH	Me	6-Cl	Cl	Et	Br	CH
Et	6-Me	Cl	Et	Br	CH	Et	6-Cl	Cl	Et	Br	CH
i-Pr	6-Me	Cl	Et	Br	CH	*i*-Pr	6-Cl	Cl	Et	Br	CH
t-Bu	6-Me	Cl	Et	Br	CH	*t*-Bu	6-Cl	Cl	Et	Br	CH
Me	6-Me	Cl	CHF_2	CF_3	CH	Me	6-Cl	Cl	CHF_2	CF_3	CH
Et	6-Me	Cl	CHF_2	CF_3	CH	Et	6-Cl	Cl	CHF_2	CF_3	CH
i-Pr	6-Me	Cl	CHF_2	CF_3	CH	*i*-Pr	6-Cl	Cl	CHF_2	CF_3	CH
t-Bu	6-Me	Cl	CHF_2	CF_3	CH	*t*-Bu	6-Cl	Cl	CHF_2	CF_3	CH
Me	6-Me	Cl	*n*-Pr	CF_3	CH	Me	6-Cl	Cl	*n*-Pr	CF_3	CH
Et	6-Me	Cl	*n*-Pr	CF_3	CH	Et	6-Cl	Cl	*n*-Pr	CF_3	CH
i-Pr	6-Me	Cl	*n*-Pr	CF_3	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	CF_3	CH
t-Bu	6-Me	Cl	*n*-Pr	CF_3	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	CF_3	CH
Me	6-Me	Cl	CF_3	CF_3	CH	Me	6-Cl	Cl	CF_3	CF_3	CH
Et	6-Me	Cl	CF_3	CF_3	CH	Et	6-Cl	Cl	CF_3	CF_3	CH
i-Pr	6-Me	Cl	CF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	CF_3	CF_3	CH
t-Bu	6-Me	Cl	CF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	CF_3	CF_3	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Me	6-Me	Cl	*i*-Pr	CF_3	CH	Me	6-Cl	Cl	*i*-Pr	CF_3	CH
Et	6-Me	Cl	*i*-Pr	CF_3	CH	Et	6-Cl	Cl	*i*-Pr	CF_3	CH
i-Pr	6-Me	Cl	*i*-Pr	CF_3	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	CF_3	CH
t-Bu	6-Me	Cl	*i*-Pr	CF_3	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	CF_3	CH
Me	6-Me	Cl	C_2F_5	CF_3	CH	Me	6-Cl	Cl	C_2F_5	CF_3	CH
Et	6-Me	Cl	C_2F_5	CF_3	CH	Et	6-Cl	Cl	C_2F_5	CF_3	CH
i-Pr	6-Me	Cl	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3	CH
t-Bu	6-Me	Cl	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3	CH
Me	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3	CH
Me	6-Me	Cl	*i*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Et	6-Me	Cl	*i*-C_3F_7	CF_3	CH	Et	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Me	6-Me	Cl	Et	CF_3	CH	Me	6-Cl	Cl	Et	CF_3	CH
Et	6-Me	Cl	Et	CF_3	CH	Et	6-Cl	Cl	Et	CF_3	CH
i-Pr	6-Me	Cl	Et	CF_3	CH	*i*-Pr	6-Cl	Cl	Et	CF_3	CH
t-Bu	6-Me	Cl	Et	CF_3	CH	*t*-Bu	6-Cl	Cl	Et	CF_3	CH
Me	6-Me	H	CHF_2	F	CF	Me	6-Cl	H	CHF_2	F	CF
Et	6-Me	H	CHF_2	F	CF	Et	6-Cl	H	CHF_2	F	CF
i-Pr	6-Me	H	CHF_2	F	CF	*i*-Pr	6-Cl	H	CHF_2	F	CF
t-Bu	6-Me	H	CHF_2	F	CF	*t*-Bu	6-Cl	H	CHF_2	F	CF
Me	6-Me	H	*n*-Pr	F	CF	Me	6-Cl	H	*n*-Pr	F	CF
Et	6-Me	H	*n*-Pr	F	CF	Et	6-Cl	H	*n*-Pr	F	CF
i-Pr	6-Me	H	*n*-Pr	F	CF	*i*-Pr	6-Cl	H	*n*-Pr	F	CF
t-Bu	6-Me	H	*n*-Pr	F	CF	*t*-Bu	6-Cl	H	*n*-Pr	F	CF
Me	6-Me	H	CF_3	F	CF	Me	6-Cl	H	CF_3	F	CF
Et	6-Me	H	CF_3	F	CF	Et	6-Cl	H	CF_3	F	CF
i-Pr	6-Me	H	CF_3	F	CF	*i*-Pr	6-Cl	H	CF_3	F	CF
t-Bu	6-Me	H	CF_3	F	CF	*t*-Bu	6-Cl	H	CF_3	F	CF
Me	6-Me	H	*i*-Pr	F	CF	Me	6-Cl	H	*i*-Pr	F	CF
Et	6-Me	H	*i*-Pr	F	CF	Et	6-Cl	H	*i*-Pr	F	CF
i-Pr	6-Me	H	*i*-Pr	F	CF	*i*-Pr	6-Cl	H	*i*-Pr	F	CF
t-Bu	6-Me	H	*i*-Pr	F	CF	*t*-Bu	6-Cl	H	*i*-Pr	F	CF
Me	6-Me	H	C_2F_5	F	CF	Me	6-Cl	H	C_2F_5	F	CF

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Et	6-Me	H	C_2F_5	F	CF	Et	6-Cl	H	C_2F_5	F	CF
i-Pr	6-Me	H	C_2F_5	F	CF	*i*-Pr	6-Cl	H	C_2F_5	F	CF
t-Bu	6-Me	H	C_2F_5	F	CF	*t*-Bu	6-Cl	H	C_2F_5	F	CF
Me	6-Me	H	*n*-C_3F_7	F	CF	Me	6-Cl	H	*n*-C_3F_7	F	CF
Et	6-Me	H	*n*-C_3F_7	F	CF	Et	6-Cl	H	*n*-C_3F_7	F	CF
i-Pr	6-Me	H	*n*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CF
t-Bu	6-Me	H	*n*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CF
Me	6-Me	H	*i*-C_3F_7	F	CF	Me	6-Cl	H	*i*-C_3F_7	F	CF
Et	6-Me	H	*i*-C_3F_7	F	CF	Et	6-Cl	H	*i*-C_3F_7	F	CF
i-Pr	6-Me	H	*i*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CF
t-Bu	6-Me	H	*i*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CF
Me	6-Me	H	Et	F	CF	Me	6-Cl	H	Et	F	CF
Et	6-Me	H	Et	F	CF	Et	6-Cl	H	Et	F	CF
i-Pr	6-Me	H	Et	F	CF	*i*-Pr	6-Cl	H	Et	F	CF
t-Bu	6-Me	H	Et	F	CF	*t*-Bu	6-Cl	H	Et	F	CF
Me	6-Me	H	CHF_2	Cl	CCl	Me	6-Cl	H	CHF_2	Cl	CCl
Et	6-Me	H	CHF_2	Cl	CCl	Et	6-Cl	H	CHF_2	Cl	CCl
i-Pr	6-Me	H	CHF_2	Cl	CCl	*i*-Pr	6-Cl	H	CHF_2	Cl	CCl
t-Bu	6-Me	H	CHF_2	Cl	CCl	*t*-Bu	6-Cl	H	CHF_2	Cl	CCl
Me	6-Me	H	*n*-Pr	Cl	CCl	Me	6-Cl	H	*n*-Pr	Cl	CCl
Et	6-Me	H	*n*-Pr	Cl	CCl	Et	6-Cl	H	*n*-Pr	Cl	CCl
i-Pr	6-Me	H	*n*-Pr	Cl	CCl	*i*-Pr	6-Cl	H	*n*-Pr	Cl	CCl
t-Bu	6-Me	H	*n*-Pr	Cl	CCl	*t*-Bu	6-Cl	H	*n*-Pr	Cl	CCl
Me	6-Me	H	CF_3	Cl	CCl	Me	6-Cl	H	CF_3	Cl	CCl
Et	6-Me	H	CF_3	Cl	CCl	Et	6-Cl	H	CF_3	Cl	CCl
i-Pr	6-Me	H	CF_3	Cl	CCl	*i*-Pr	6-Cl	H	CF_3	Cl	CCl
t-Bu	6-Me	H	CF_3	Cl	CCl	*t*-Bu	6-Cl	H	CF_3	Cl	CCl
Me	6-Me	H	*i*-Pr	Cl	CCl	Me	6-Cl	H	*i*-Pr	Cl	CCl
Et	6-Me	H	*i*-Pr	Cl	CCl	Et	6-Cl	H	*i*-Pr	Cl	CCl
i-Pr	6-Me	H	*i*-Pr	Cl	CCl	*i*-Pr	6-Cl	H	*i*-Pr	Cl	CCl
t-Bu	6-Me	H	*i*-Pr	Cl	CCl	*t*-Bu	6-Cl	H	*i*-Pr	Cl	CCl
Me	6-Me	H	C_2F_5	Cl	CCl	Me	6-Cl	H	C_2F_5	Cl	CCl
Et	6-Me	H	C_2F_5	Cl	CCl	Et	6-Cl	H	C_2F_5	Cl	CCl
i-Pr	6-Me	H	C_2F_5	Cl	CCl	*i*-Pr	6-Cl	H	C_2F_5	Cl	CCl
t-Bu	6-Me	H	C_2F_5	Cl	CCl	*t*-Bu	6-Cl	H	C_2F_5	Cl	CCl
Me	6-Me	H	*n*-C_3F_7	Cl	CCl	Me	6-Cl	H	*n*-C_3F_7	Cl	CCl
Et	6-Me	H	*n*-C_3F_7	Cl	CCl	Et	6-Cl	H	*n*-C_3F_7	Cl	CCl

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CCl
Me	6-Me	H	*i*-C_3F_7	Cl	CCl	Me	6-Cl	H	*i*-C_3F_7	Cl	CCl
Et	6-Me	H	*i*-C_3F_7	Cl	CCl	Et	6-Cl	H	*i*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CCl
Me	6-Me	H	Et	Cl	CCl	Me	6-Cl	H	Et	Cl	CCl
Et	6-Me	H	Et	Cl	CCl	Et	6-Cl	H	Et	Cl	CCl
i-Pr	6-Me	H	Et	Cl	CCl	*i*-Pr	6-Cl	H	Et	Cl	CCl
t-Bu	6-Me	H	Et	Cl	CCl	*t*-Bu	6-Cl	H	Et	Cl	CCl

Table 13



R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	F	CF_3	Me	Cl	Cl	F	CF_3	Me	Cl	Br	F	CF_3	Me	Cl
CH_3	F	CF_3	Et	Cl	Cl	F	CF_3	Et	Cl	Br	F	CF_3	Et	Cl
CH_3	F	CF_3	*i*-Pr	Cl	Cl	F	CF_3	*i*-Pr	Cl	Br	F	CF_3	*i*-Pr	Cl
CH_3	F	CF_3	*t*-Bu	Cl	Cl	F	CF_3	*t*-Bu	Cl	Br	F	CF_3	*t*-Bu	Cl
CH_3	F	CF_3	Me	Br	Cl	F	CF_3	Me	Br	Br	F	CF_3	Me	Br
CH_3	F	CF_3	Et	Br	Cl	F	CF_3	Et	Br	Br	F	CF_3	Et	Br
CH_3	F	CF_3	*i*-Pr	Br	Cl	F	CF_3	*i*-Pr	Br	Br	F	CF_3	*i*-Pr	Br
CH_3	F	CF_3	*t*-Bu	Br	Cl	F	CF_3	*t*-Bu	Br	Br	F	CF_3	*t*-Bu	Br
CH_3	F	Cl	Me	Cl	Cl	F	Cl	Me	Cl	Br	F	Cl	Me	Cl
CH_3	F	Cl	Et	Cl	Cl	F	Cl	Et	Cl	Br	F	Cl	Et	Cl
CH_3	F	Cl	*i*-Pr	Cl	Cl	F	Cl	*i*-Pr	Cl	Br	F	Cl	*i*-Pr	Cl
CH_3	F	Cl	*t*-Bu	Cl	Cl	F	Cl	*t*-Bu	Cl	Br	F	Cl	*t*-Bu	Cl
CH_3	F	Cl	Me	Br	Cl	F	Cl	Me	Br	Br	F	Cl	Me	Br
CH_3	F	Cl	Et	Br	Cl	F	Cl	Et	Br	Br	F	Cl	Et	Br

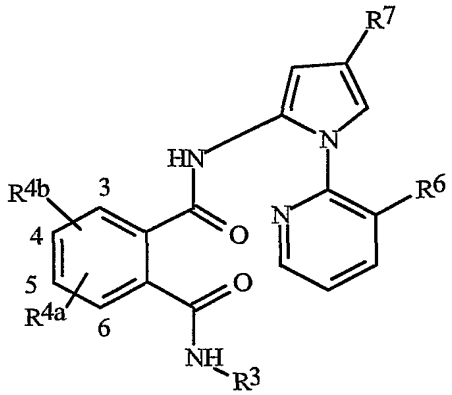
R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	F	Cl	*i*-Pr	Br	Cl	F	Cl	*i*-Pr	Br	Br	F	Cl	*i*-Pr	Br
CH_3	F	Cl	*t*-Bu	Br	Cl	F	Cl	*t*-Bu	Br	Br	F	Cl	*t*-Bu	Br
CH_3	F	Br	Me	Cl	Cl	F	Br	Me	Cl	Br	F	Br	Me	Cl
CH_3	F	Br	Et	Cl	Cl	F	Br	Et	Cl	Br	F	Br	Et	Cl
CH_3	F	Br	*i*-Pr	Cl	Cl	F	Br	*i*-Pr	Cl	Br	F	Br	*i*-Pr	Cl
CH_3	F	Br	*t*-Bu	Cl	Cl	F	Br	*t*-Bu	Cl	Br	F	Br	*t*-Bu	Cl
CH_3	F	Br	Me	Br	Cl	F	Br	Me	Br	Br	F	Br	Me	Br
CH_3	F	Br	Et	Br	Cl	F	Br	Et	Br	Br	F	Br	Et	Br
CH_3	F	Br	*i*-Pr	Br	Cl	F	Br	*i*-Pr	Br	Br	F	Br	*i*-Pr	Br
CH_3	F	Br	*t*-Bu	Br	Cl	F	Br	*t*-Bu	Br	Br	F	Br	*t*-Bu	Br
CH_3	Cl	CF_3	Me	Cl	Cl	Cl	CF_3	Me	Cl	Br	Cl	CF_3	Me	Cl
CH_3	Cl	CF_3	Et	Cl	Cl	Cl	CF_3	Et	Cl	Br	Cl	CF_3	Et	Cl
CH_3	Cl	CF_3	*i*-Pr	Cl	Cl	Cl	CF_3	*i*-Pr	Cl	Br	Cl	CF_3	*i*-Pr	Cl
CH_3	Cl	CF_3	*t*-Bu	Cl	Cl	Cl	CF_3	*t*-Bu	Cl	Br	Cl	CF_3	*t*-Bu	Cl
CH_3	Cl	CF_3	Me	Br	Cl	Cl	CF_3	Me	Br	Br	Cl	CF_3	Me	Br
CH_3	Cl	CF_3	Et	Br	Cl	Cl	CF_3	Et	Br	Br	Cl	CF_3	Et	Br
CH_3	Cl	CF_3	*i*-Pr	Br	Cl	Cl	CF_3	*i*-Pr	Br	Br	Cl	CF_3	*i*-Pr	Br
CH_3	Cl	CF_3	*t*-Bu	Br	Cl	Cl	CF_3	*t*-Bu	Br	Br	Cl	CF_3	*t*-Bu	Br
CH_3	Cl	Cl	Me	Cl	Cl	Cl	Cl	Me	Cl	Br	Cl	Cl	Me	Cl
CH_3	Cl	Cl	Et	Cl	Cl	Cl	Cl	Et	Cl	Br	Cl	Cl	Et	Cl
CH_3	Cl	Cl	*i*-Pr	Cl	Cl	Cl	Cl	*i*-Pr	Cl	Br	Cl	Cl	*i*-Pr	Cl
CH_3	Cl	Cl	*t*-Bu	Cl	Cl	Cl	Cl	*t*-Bu	Cl	Br	Cl	Cl	*t*-Bu	Cl
CH_3	Cl	Cl	Me	Br	Cl	Cl	Cl	Me	Br	Br	Cl	Cl	Me	Br
CH_3	Cl	Cl	Et	Br	Cl	Cl	Cl	Et	Br	Br	Cl	Cl	Et	Br
CH_3	Cl	Cl	*i*-Pr	Br	Cl	Cl	Cl	*i*-Pr	Br	Br	Cl	Cl	*i*-Pr	Br
CH_3	Cl	Cl	*t*-Bu	Br	Cl	Cl	Cl	*t*-Bu	Br	Br	Cl	Cl	*t*-Bu	Br
CH_3	Cl	Br	Me	Cl	Cl	Cl	Br	Me	Cl	Br	Cl	Br	Me	Cl
CH_3	Cl	Br	Et	Cl	Cl	Cl	Br	Et	Cl	Br	Cl	Br	Et	Cl
CH_3	Cl	Br	*i*-Pr	Cl	Cl	Cl	Br	*i*-Pr	Cl	Br	Cl	Br	*i*-Pr	Cl
CH_3	Cl	Br	*t*-Bu	Cl	Cl	Cl	Br	*t*-Bu	Cl	Br	Cl	Br	*t*-Bu	Cl
CH_3	Cl	Br	Me	Br	Cl	Cl	Br	Me	Br	Br	Cl	Br	Me	Br
CH_3	Cl	Br	Et	Br	Cl	Cl	Br	Et	Br	Br	Cl	Br	Et	Br
CH_3	Cl	Br	*i*-Pr	Br	Cl	Cl	Br	*i*-Pr	Br	Br	Cl	Br	*i*-Pr	Br
CH_3	Cl	Br	*t*-Bu	Br	Cl	Cl	Br	*t*-Bu	Br	Br	Cl	Br	*t*-Bu	Br
CH_3	Br	CF_3	Me	Cl	Cl	Br	CF_3	Me	Cl	Br	Br	CF_3	Me	Cl
CH_3	Br	CF_3	Et	Cl	Cl	Br	CF_3	Et	Cl	Br	Br	CF_3	Et	Cl
CH_3	Br	CF_3	*i*-Pr	Cl	Cl	Br	CF_3	*i*-Pr	Cl	Br	Br	CF_3	*i*-Pr	Cl

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	Br	CF_3	*t*-Bu	Cl	Cl	Br	CF_3	*t*-Bu	Cl	Br	Br	CF_3	*t*-Bu	Cl
CH_3	Br	CF_3	Me	Br	Cl	Br	CF_3	Me	Br	Br	Br	CF_3	Me	Br
CH_3	Br	CF_3	Et	Br	Cl	Br	CF_3	Et	Br	Br	Br	CF_3	Et	Br
CH_3	Br	CF_3	*i*-Pr	Br	Cl	Br	CF_3	*i*-Pr	Br	Br	Br	CF_3	*i*-Pr	Br
CH_3	Br	CF_3	*t*-Bu	Br	Cl	Br	CF_3	*t*-Bu	Br	Br	Br	CF_3	*t*-Bu	Br
CH_3	Br	Cl	Me	Cl	Cl	Br	Cl	Me	Cl	Br	Br	Cl	Me	Cl
CH_3	Br	Cl	Et	Cl	Cl	Br	Cl	Et	Cl	Br	Br	Cl	Et	Cl
CH_3	Br	Cl	*i*-Pr	Cl	Cl	Br	Cl	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Cl
CH_3	Br	Cl	*t*-Bu	Cl	Cl	Br	Cl	*t*-Bu	Cl	Br	Br	Cl	*t*-Bu	Cl
CH_3	Br	Cl	Me	Br	Cl	H	CF_3	Me	Cl	Br	Br	Cl	Me	Br
CH_3	Br	Cl	Et	Br	Cl	H	CF_3	Et	Cl	Br	Br	Cl	Et	Br
CH_3	Br	Cl	*i*-Pr	Br	Cl	H	CF_3	*i*-Pr	Cl	Br	Br	Cl	*i*-Pr	Br
CH_3	Br	Cl	*t*-Bu	Br	Cl	H	CF_3	*t*-Bu	Cl	Br	Br	Cl	*t*-Bu	Br
CH_3	Br	Br	Me	Cl	Cl	H	CF_3	Me	Br	Br	Br	Br	Me	Cl
CH_3	Br	Br	Et	Cl	Cl	H	CF_3	Et	Br	Br	Br	Br	Et	Cl
CH_3	Br	Br	*i*-Pr	Cl	Cl	H	CF_3	*i*-Pr	Br	Br	Br	Br	*i*-Pr	Cl
CH_3	Br	Br	*t*-Bu	Cl	Cl	H	CF_3	*t*-Bu	Br	Br	Br	Br	*t*-Bu	Cl
CH_3	Br	Br	Me	Br	Cl	H	Cl	Me	Cl	Br	Br	Br	Me	Br
CH_3	Br	Br	Et	Br	Cl	H	Cl	Et	Cl	Br	Br	Br	Et	Br
CH_3	Br	Br	*i*-Pr	Br	Cl	H	Cl	*i*-Pr	Cl	Br	Br	Br	*i*-Pr	Br
CH_3	Br	Br	*t*-Bu	Br	Cl	H	Cl	*t*-Bu	Cl	Br	Br	Br	*t*-Bu	Br
CH_3	I	CF_3	Me	Cl	Cl	H	Cl	Me	Br	Br	I	CF_3	Me	Cl
CH_3	I	CF_3	Et	Cl	Cl	H	Cl	Et	Br	Br	I	CF_3	Et	Cl
CH_3	I	CF_3	*i*-Pr	Cl	Cl	H	Cl	*i*-Pr	Br	Br	I	CF_3	*i*-Pr	Cl
CH_3	I	CF_3	*t*-Bu	Cl	Cl	H	Cl	*t*-Bu	Br	Br	I	CF_3	*t*-Bu	Cl
CH_3	I	CF_3	Me	Br	Cl	H	Br	Me	Cl	Br	I	CF_3	Me	Br
CH_3	I	CF_3	Et	Br	Cl	H	Br	Et	Cl	Br	I	CF_3	Et	Br
CH_3	I	CF_3	*i*-Pr	Br	Cl	H	Br	*i*-Pr	Cl	Br	I	CF_3	*i*-Pr	Br
CH_3	I	CF_3	*t*-Bu	Br	Cl	H	Br	*t*-Bu	Cl	Br	I	CF_3	*t*-Bu	Br
CH_3	I	Cl	Me	Cl	Cl	H	Br	Me	Br	Br	I	Cl	Me	Cl
CH_3	I	Cl	Et	Cl	Cl	H	Br	Et	Br	Br	I	Cl	Et	Cl
CH_3	I	Cl	*i*-Pr	Cl	Cl	H	Br	*i*-Pr	Br	Br	I	Cl	*i*-Pr	Cl
CH_3	I	Cl	*t*-Bu	Cl	Cl	H	Br	*t*-Bu	Br	Br	I	Cl	*t*-Bu	Cl
CH_3	I	Cl	Me	Br	Cl	Br	Cl	Me	Br	Br	I	Cl	Me	Br
CH_3	I	Cl	Et	Br	Cl	Br	Cl	Et	Br	Br	I	Cl	Et	Br
CH_3	I	Cl	*i*-Pr	Br	Cl	Br	Cl	*i*-Pr	Br	Br	I	Cl	*i*-Pr	Br
CH_3	I	Cl	*t*-Bu	Br	Cl	Br	Cl	*t*-Bu	Br	Br	I	Cl	*t*-Bu	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	I	Br	Me	Cl	Cl	Br	Br	Me	Cl	Br	I	Br	Me	Cl
CH_3	I	Br	Et	Cl	Cl	Br	Br	Et	Cl	Br	I	Br	Et	Cl
CH_3	I	Br	*i*-Pr	Cl	Cl	Br	Br	*i*-Pr	Cl	Br	I	Br	*i*-Pr	Cl
CH_3	I	Br	*t*-Bu	Cl	Cl	Br	Br	*t*-Bu	Cl	Br	I	Br	*t*-Bu	Cl
CH_3	I	Br	Me	Br	Cl	Br	Br	Me	Br	Br	I	Br	Me	Br
CH_3	I	Br	Et	Br	Cl	Br	Br	Et	Br	Br	I	Br	Et	Br
CH_3	I	Br	*i*-Pr	Br	Cl	Br	Br	*i*-Pr	Br	Br	I	Br	*i*-Pr	Br
CH_3	I	Br	*t*-Bu	Br	Cl	Br	Br	*t*-Bu	Br	Br	I	Br	*t*-Bu	Br
CH_3	CF_3	CF_3	Me	Cl	Cl	I	CF_3	Me	Cl	Br	CF_3	CF_3	Me	Cl
CH_3	CF_3	CF_3	Et	Cl	Cl	I	CF_3	Et	Cl	Br	CF_3	CF_3	Et	Cl
CH_3	CF_3	CF_3	*i*-Pr	Cl	Cl	I	CF_3	*i*-Pr	Cl	Br	CF_3	CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_3	*t*-Bu	Cl	Cl	I	CF_3	*t*-Bu	Cl	Br	CF_3	CF_3	*t*-Bu	Cl
CH_3	CF_3	CF_3	Me	Br	Cl	I	CF_3	Me	Br	Br	CF_3	CF_3	Me	Br
CH_3	CF_3	CF_3	Et	Br	Cl	I	CF_3	Et	Br	Br	CF_3	CF_3	Et	Br
CH_3	CF_3	CF_3	*i*-Pr	Br	Cl	I	CF_3	*i*-Pr	Br	Br	CF_3	CF_3	*i*-Pr	Br
CH_3	CF_3	CF_3	*t*-Bu	Br	Cl	I	CF_3	*t*-Bu	Br	Br	CF_3	CF_3	*t*-Bu	Br
CH_3	CF_3	Cl	Me	Cl	Cl	I	Cl	Me	Cl	Br	CF_3	Cl	Me	Cl
CH_3	CF_3	Cl	Et	Cl	Cl	I	Cl	Et	Cl	Br	CF_3	Cl	Et	Cl
CH_3	CF_3	Cl	*i*-Pr	Cl	Cl	I	Cl	*i*-Pr	Cl	Br	CF_3	Cl	*i*-Pr	Cl
CH_3	CF_3	Cl	*t*-Bu	Cl	Cl	I	Cl	*t*-Bu	Cl	Br	CF_3	Cl	*t*-Bu	Cl
CH_3	CF_3	Cl	Me	Br	Cl	I	Cl	Me	Br	Br	CF_3	Cl	Me	Br
CH_3	CF_3	Cl	Et	Br	Cl	I	Cl	Et	Br	Br	CF_3	Cl	Et	Br
CH_3	CF_3	Cl	*i*-Pr	Br	Cl	I	Cl	*i*-Pr	Br	Br	CF_3	Cl	*i*-Pr	Br
CH_3	CF_3	Cl	*t*-Bu	Br	Cl	I	Cl	*t*-Bu	Br	Br	CF_3	Cl	*t*-Bu	Br
CH_3	CF_3	Br	Me	Cl	Cl	I	Br	Me	Cl	Br	CF_3	Br	Me	Cl
CH_3	CF_3	Br	Et	Cl	Cl	I	Br	Et	Cl	Br	CF_3	Br	Et	Cl
CH_3	CF_3	Br	*i*-Pr	Cl	Cl	I	Br	*i*-Pr	Cl	Br	CF_3	Br	*i*-Pr	Cl
CH_3	CF_3	Br	*t*-Bu	Cl	Cl	I	Br	*t*-Bu	Cl	Br	CF_3	Br	*t*-Bu	Cl
CH_3	CF_3	Br	Me	Br	Cl	I	Br	Me	Br	Br	CF_3	Br	Me	Br
CH_3	CF_3	Br	Et	Br	Cl	I	Br	Et	Br	Br	CF_3	Br	Et	Br
CH_3	CF_3	Br	*i*-Pr	Br	Cl	I	Br	*i*-Pr	Br	Br	CF_3	Br	*i*-Pr	Br
CH_3	CF_3	Br	*t*-Bu	Br	Cl	I	Br	*t*-Bu	Br	Br	CF_3	Br	*t*-Bu	Br
CH_3	Cl	Cl	*n*-Pr	Cl	Cl	CF_3	CF_3	Me	Cl	I	Cl	CF_3	Me	Cl
CH_3	Cl	Cl	*n*-Bu	Cl	Cl	CF_3	CF_3	Et	Cl	I	Cl	CF_3	Et	Cl
CH_3	Cl	Cl	*s*-Bu	Cl	Cl	CF_3	CF_3	*i*-Pr	Cl	I	Cl	CF_3	*i*-Pr	Cl
CH_3	Cl	Cl	*i*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Cl	I	Cl	CF_3	*t*-Bu	Cl
CH_3	H	CF_3	Me	Cl	Cl	CF_3	CF_3	Me	Br	I	Cl	CF_3	Me	Br

R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6	R^{4a}	R^{4b}	R^7	R^3	R^6
CH_3	H	CF_3	Et	Cl	Cl	CF_3	CF_3	Et	Br	I	Cl	CF_3	Et	Br
CH_3	H	CF_3	*i*-Pr	Cl	Cl	CF_3	CF_3	*i*-Pr	Br	I	Cl	CF_3	*i*-Pr	Br
CH_3	H	CF_3	*t*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Br	I	Cl	CF_3	*t*-Bu	Br
CH_3	H	CF_3	Me	Br	Cl	CF_3	Cl	Me	Cl	I	Cl	Cl	Me	Cl
CH_3	H	CF_3	Et	Br	Cl	CF_3	Cl	Et	Cl	I	Cl	Cl	Et	Cl
CH_3	H	CF_3	*i*-Pr	Br	Cl	CF_3	Cl	*i*-Pr	Cl	I	Cl	Cl	*i*-Pr	Cl
CH_3	H	CF_3	*t*-Bu	Br	Cl	CF_3	Cl	*t*-Bu	Cl	I	Cl	Cl	*t*-Bu	Cl
CH_3	H	Cl	Me	Cl	Cl	CF_3	Cl	Me	Br	I	Cl	Cl	Me	Br
CH_3	H	Cl	Et	Cl	Cl	CF_3	Cl	Et	Br	I	Cl	Cl	Et	Br
CH_3	H	Cl	*i*-Pr	Cl	Cl	CF_3	Cl	*i*-Pr	Br	I	Cl	Cl	*i*-Pr	Br
CH_3	H	Cl	*t*-Bu	Cl	Cl	CF_3	Cl	*t*-Bu	Br	I	Cl	Cl	*t*-Bu	Br
CH_3	H	Cl	Me	Br	Cl	CF_3	Br	Me	Cl	I	Cl	Br	Me	Cl
CH_3	H	Cl	Et	Br	Cl	CF_3	Br	Et	Cl	I	Cl	Br	Et	Cl
CH_3	H	Cl	*i*-Pr	Br	Cl	CF_3	Br	*i*-Pr	Cl	I	Cl	Br	*i*-Pr	Cl
CH_3	H	Cl	*t*-Bu	Br	Cl	CF_3	Br	*t*-Bu	Cl	I	Cl	Br	*t*-Bu	Cl
CH_3	H	Br	Me	Cl	Cl	CF_3	Br	Me	Br	I	Cl	Br	Me	Br
CH_3	H	Br	Et	Cl	Cl	CF_3	Br	Et	Br	I	Cl	Br	Et	Br
CH_3	H	Br	*i*-Pr	Cl	Cl	CF_3	Br	*i*-Pr	Br	I	Cl	Br	*i*-Pr	Br
CH_3	H	Br	*t*-Bu	Cl	Cl	CF_3	Br	*t*-Bu	Br	I	Cl	Br	*t*-Bu	Br
CH_3	H	Br	Me	Br	Cl	Cl	Cl	*n*-Pr	Cl	I	H	CF_3	Me	Cl
CH_3	H	Br	Et	Br	Cl	Cl	Cl	*n*-Bu	Cl	I	H	CF_3	Et	Cl
CH_3	H	Br	*i*-Pr	Br	Cl	Cl	Cl	*s*-Bu	Cl	I	H	CF_3	*i*-Pr	Cl
CH_3	H	Br	*t*-Bu	Br	Cl	Cl	Cl	*i*-Bu	Cl	I	H	CF_3	*t*-Bu	Cl

Table 14



R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	3-Me	H	CF_3	F	Me	3-Cl	H	CF_3	F
Et	3-Me	5-Me	OCF_3	F	Et	3-Cl	5-Me	OCF_3	F

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	3-Me	H	OCF_3	F	*i*-Pr	3-Cl	H	OCF_3	F
t-Bu	3-Me	5-Cl	Br	F	*t*-Bu	3-Cl	5-Cl	Br	F
Me	3-Me	H	Br	F	Me	3-Cl	H	Br	F
Et	3-Me	H	Cl	F	Et	3-Cl	H	Cl	F
i-Pr	3-Me	5-Br	Cl	F	*i*-Pr	3-Cl	5-Br	Cl	F
t-Bu	3-Me	H	I	F	*t*-Bu	3-Cl	H	I	F
propargyl	3-Me	H	CF_3	F	propargyl	3-Cl	H	CF_3	F
c-propyl	3-Me	H	OCF_3	F	*c*-propyl	3-Cl	H	OCF_3	F
i-Pr	3-Me	5-Cl	CF_3	F	*i*-Pr	3-Cl	5-Cl	CF_3	F
t-Bu	3-Me	H	SCF_3	F	t-Bu	3-Cl	H	SCF_3	F
Me	3-Me	5-Cl	$SCHF_2$	F	Me	3-Cl	5-Cl	$SCHF_2$	F
Et	3-Me	H	$OCHF_2$	F	Et	3-Cl	H	$OCHF_2$	F
i-Pr	3-Me	H	CF_3	F	*i*-Pr	3-Cl	H	CF_3	F
t-Bu	3-Me	H	C_2F_5	F	*t*-Bu	3-Cl	H	C_2F_5	F
propargyl	3-Me	H	C_2F_5	F	propargyl	3-Cl	H	C_2F_5	F
c-propyl	3-Me	H	CF_3	F	*c*-propyl	3-Cl	H	CF_3	F
i-Pr	3-Me	H	Me	F	*i*-Pr	3-Cl	H	Me	F
t-Bu	3-Me	5-Br	CN	F	*t*-Bu	3-Cl	5-Br	CN	F
Me	3-Me	H	CF_3	Cl	Me	3-Cl	H	CF_3	Cl
Et	3-Me	5-Me	OCF_3	Cl	Et	3-Cl	5-Me	OCF_3	Cl
i-Pr	3-Me	H	OCF_3	Cl	*i*-Pr	3-Cl	H	OCF_3	Cl
t-Bu	3-Me	5-Cl	Br	Cl	*t*-Bu	3-Cl	5-Cl	Br	Cl
Me	3-Me	H	Br	Cl	Me	3-Cl	H	Br	Cl
Et	3-Me	H	Cl	Cl	Et	3-Cl	H	Cl	Cl
i-Pr	3-Me	5-Br	Cl	Cl	*i*-Pr	3-Cl	5-Br	Cl	Cl
t-Bu	3-Me	H	I	Cl	*t*-Bu	3-Cl	H	I	Cl
propargyl	3-Me	H	CF_3	Cl	propargyl	3-Cl	H	CF_3	Cl
c-propyl	3-Me	H	OCF_3	Cl	*c*-propyl	3-Cl	H	OCF_3	Cl
i-Pr	3-Me	5-Cl	CF_3	Cl	*i*-Pr	3-Cl	5-Cl	CF_3	Cl
t-Bu	3-Me	H	SCF_3	Cl	t-Bu	3-Cl	H	SCF_3	Cl
Me	3-Me	5-Cl	$SCHF_2$	Cl	Me	3-Cl	5-Cl	$SCHF_2$	Cl
Et	3-Me	H	$OCHF_2$	Cl	Et	3-Cl	H	$OCHF_2$	Cl
i-Pr	3-Me	H	CF_3	Cl	*i*-Pr	3-Cl	H	CF_3	Cl
t-Bu	3-Me	H	C_2F_5	Cl	*t*-Bu	3-Cl	H	C_2F_5	Cl
propargyl	3-Me	H	C_2F_5	Cl	propargyl	3-Cl	H	C_2F_5	Cl
c-propyl	3-Me	H	CF_3	Cl	*c*-propyl	3-Cl	H	CF_3	Cl
i-Pr	3-Me	H	Me	Cl	*i*-Pr	3-Cl	H	Me	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	3-Me	5-Br	CN	Cl	*t*-Bu	3-Cl	5-Br	CN	Cl
Me	3-Me	H	CF_3	CF_3	Me	3-Cl	H	CF_3	CF_3
Et	3-Me	5-Me	OCF_3	CF_3	Et	3-Cl	5-Me	OCF_3	CF_3
i-Pr	3-Me	H	OCF_3	CF_3	*i*-Pr	3-Cl	H	OCF_3	CF_3
t-Bu	3-Me	5-Cl	Br	CF_3	*t*-Bu	3-Cl	5-Cl	Br	CF_3
Me	3-Me	H	Br	CF_3	Me	3-Cl	H	Br	CF_3
Et	3-Me	H	Cl	CF_3	Et	3-Cl	H	Cl	CF_3
i-Pr	3-Me	5-Br	Cl	CF_3	*i*-Pr	3-Cl	5-Br	Cl	CF_3
t-Bu	3-Me	H	I	CF_3	*t*-Bu	3-Cl	H	I	CF_3
propargyl	3-Me	H	CF_3	CF_3	propargyl	3-Cl	H	CF_3	CF_3
c-propyl	3-Me	H	OCF_3	CF_3	*c*-propyl	3-Cl	H	OCF_3	CF_3
i-Pr	3-Me	5-Cl	CF_3	CF_3	*i*-Pr	3-Cl	5-Cl	CF_3	CF_3
t-Bu	3-Me	H	SCF_3	CF_3	t-Bu	3-Cl	H	SCF_3	CF_3
Me	3-Me	5-Cl	$SCHF_2$	CF_3	Me	3-Cl	5-Cl	$SCHF_2$	CF_3
Et	3-Me	H	$OCHF_2$	CF_3	Et	3-Cl	H	$OCHF_2$	CF_3
i-Pr	3-Me	H	CF_3	CF_3	*i*-Pr	3-Cl	H	CF_3	CF_3
t-Bu	3-Me	H	C_2F_5	CF_3	*t*-Bu	3-Cl	H	C_2F_5	CF_3
propargyl	3-Me	H	C_2F_5	CF_3	propargyl	3-Cl	H	C_2F_5	CF_3
c-propyl	3-Me	H	CF_3	CF_3	*c*-propyl	3-Cl	H	CF_3	CF_3
i-Pr	3-Me	H	Me	CF_3	*i*-Pr	3-Cl	H	Me	CF_3
t-Bu	3-Me	5-Br	CN	CF_3	*t*-Bu	3-Cl	5-Br	CN	CF_3
Me	3-Me	H	CF_3	Br	Me	3-Cl	H	CF_3	Br
Et	3-Me	5-Me	OCF_3	Br	Et	3-Cl	5-Me	OCF_3	Br
i-Pr	3-Me	H	OCF_3	Br	*i*-Pr	3-Cl	H	OCF_3	Br
t-Bu	3-Me	5-Cl	Br	Br	*t*-Bu	3-Cl	5-Cl	Br	Br
Me	3-Me	H	Br	Br	Me	3-Cl	H	Br	Br
Et	3-Me	H	Cl	Br	Et	3-Cl	H	Cl	Br
i-Pr	3-Me	5-Br	Cl	Br	*i*-Pr	3-Cl	5-Br	Cl	Br
t-Bu	3-Me	H	I	Br	*t*-Bu	3-Cl	H	I	Br
propargyl	3-Me	H	CF_3	Br	propargyl	3-Cl	H	CF_3	Br
c-propyl	3-Me	H	OCF_3	Br	*c*-propyl	3-Cl	H	OCF_3	Br
i-Pr	3-Me	5-Cl	CF_3	Br	*i*-Pr	3-Cl	5-Cl	CF_3	Br
t-Bu	3-Me	H	SCF_3	Br	t-Bu	3-Cl	H	SCF_3	Br
Me	3-Me	5-Cl	$SCHF_2$	Br	Me	3-Cl	5-Cl	$SCHF_2$	Br
Et	3-Me	H	$OCHF_2$	Br	Et	3-Cl	H	$OCHF_2$	Br
i-Pr	3-Me	H	CF_3	Br	*i*-Pr	3-Cl	H	CF_3	Br
t-Bu	3-Me	H	C_2F_5	Br	*t*-Bu	3-Cl	H	C_2F_5	Br

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
propargyl	3-Me	H	C_2F_5	Br	propargyl	3-Cl	H	C_2F_5	Br
c-propyl	3-Me	H	CF_3	Br	*c*-propyl	3-Cl	H	CF_3	Br
i-Pr	3-Me	H	Me	Br	*i*-Pr	3-Cl	H	Me	Br
t-Bu	3-Me	5-Br	CN	Br	*t*-Bu	3-Cl	5-Br	CN	Br
Me	6-Me	H	$OCHF_2$	F	Me	6-Cl	H	$OCHF_2$	F
Et	6-Me	H	$OCHF_2$	F	Et	6-Cl	H	$OCHF_2$	F
i-Pr	6-Me	H	$OCHF_2$	F	*i*-Pr	6-Cl	H	$OCHF_2$	F
t-Bu	6-Me	H	$OCHF_2$	F	*t*-Bu	6-Cl	H	$OCHF_2$	F
Me	6-Me	H	$SCHF_2$	F	Me	6-Cl	H	$SCHF_2$	F
Et	6-Me	H	$SCHF_2$	F	Et	6-Cl	H	$SCHF_2$	F
i-Pr	6-Me	H	$SCHF_2$	F	*i*-Pr	6-Cl	H	$SCHF_2$	F
t-Bu	6-Me	H	$SCHF_2$	F	*t*-Bu	6-Cl	H	$SCHF_2$	F
Me	6-Me	H	OCF_3	F	Me	6-Cl	H	OCF_3	F
Et	6-Me	H	OCF_3	F	Et	6-Cl	H	OCF_3	F
i-Pr	6-Me	H	OCF_3	F	*i*-Pr	6-Cl	H	OCF_3	F
t-Bu	6-Me	H	OCF_3	F	*t*-Bu	6-Cl	H	OCF_3	F
Me	6-Me	H	SCF_3	F	Me	6-Cl	H	SCF_3	F
Et	6-Me	H	SCF_3	F	Et	6-Cl	H	SCF_3	F
i-Pr	6-Me	H	SCF_3	F	*i*-Pr	6-Cl	H	SCF_3	F
t-Bu	6-Me	H	SCF_3	F	*t*-Bu	6-Cl	H	SCF_3	F
Me	6-Me	H	C_2F_5	F	Me	6-Cl	H	C_2F_5	F
Et	6-Me	H	C_2F_5	F	Et	6-Cl	H	C_2F_5	F
i-Pr	6-Me	H	C_2F_5	F	*i*-Pr	6-Cl	H	C_2F_5	F
t-Bu	6-Me	H	C_2F_5	F	*t*-Bu	6-Cl	H	C_2F_5	F
Me	6-Me	H	*n*-C_3F_7	F	Me	6-Cl	H	*n*-C_3F_7	F
Et	6-Me	H	*n*-C_3F_7	F	Et	6-Cl	H	*n*-C_3F_7	F
i-Pr	6-Me	H	*n*-C_3F_7	F	*i*-Pr	6-Cl	H	*n*-C_3F_7	F
t-Bu	6-Me	H	*n*-C_3F_7	F	*t*-Bu	6-Cl	H	*n*-C_3F_7	F
Me	6-Me	H	*i*-C_3F_7	F	Me	6-Cl	H	*i*-C_3F_7	F
Et	6-Me	H	*i*-C_3F_7	F	Et	6-Cl	H	*i*-C_3F_7	F
i-Pr	6-Me	H	*i*-C_3F_7	F	*i*-Pr	6-Cl	H	*i*-C_3F_7	F
t-Bu	6-Me	H	*i*-C_3F_7	F	*t*-Bu	6-Cl	H	*i*-C_3F_7	F
Me	6-Me	H	CN	F	Me	6-Cl	H	CN	F
Et	6-Me	H	CN	F	Et	6-Cl	H	CN	F
i-Pr	6-Me	H	CN	F	*i*-Pr	6-Cl	H	CN	F
t-Bu	6-Me	H	CN	F	*t*-Bu	6-Cl	H	CN	F
Me	6-Me	H	$OCHF_2$	Cl	Me	6-Cl	H	$OCHF_2$	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	6-Me	H	$OCHF_2$	Cl	Et	6-Cl	H	$OCHF_2$	Cl
i-Pr	6-Me	H	$OCHF_2$	Cl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl
t-Bu	6-Me	H	$OCHF_2$	Cl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl
Me	6-Me	H	$SCHF_2$	Cl	Me	6-Cl	H	$SCHF_2$	Cl
Et	6-Me	H	$SCHF_2$	Cl	Et	6-Cl	H	$SCHF_2$	Cl
i-Pr	6-Me	H	$SCHF_2$	Cl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl
t-Bu	6-Me	H	$SCHF_2$	Cl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl
Me	6-Me	H	OCF_3	Cl	Me	6-Cl	H	OCF_3	Cl
Et	6-Me	H	OCF_3	Cl	Et	6-Cl	H	OCF_3	Cl
i-Pr	6-Me	H	OCF_3	Cl	*i*-Pr	6-Cl	H	OCF_3	Cl
t-Bu	6-Me	H	OCF_3	Cl	*t*-Bu	6-Cl	H	OCF_3	Cl
Me	6-Me	H	SCF_3	Cl	Me	6-Cl	H	SCF_3	Cl
Et	6-Me	H	SCF_3	Cl	Et	6-Cl	H	SCF_3	Cl
i-Pr	6-Me	H	SCF_3	Cl	*i*-Pr	6-Cl	H	SCF_3	Cl
t-Bu	6-Me	H	SCF_3	Cl	*t*-Bu	6-Cl	H	SCF_3	Cl
Me	6-Me	H	C_2F_5	Cl	Me	6-Cl	H	C_2F_5	Cl
Et	6-Me	H	C_2F_5	Cl	Et	6-Cl	H	C_2F_5	Cl
i-Pr	6-Me	H	C_2F_5	Cl	*i*-Pr	6-Cl	H	C_2F_5	Cl
t-Bu	6-Me	H	C_2F_5	Cl	*t*-Bu	6-Cl	H	C_2F_5	Cl
Me	6-Me	H	*n*-C_3F_7	Cl	Me	6-Cl	H	*n*-C_3F_7	Cl
Et	6-Me	H	*n*-C_3F_7	Cl	Et	6-Cl	H	*n*-C_3F_7	Cl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl
Me	6-Me	H	*i*-C_3F_7	Cl	Me	6-Cl	H	*i*-C_3F_7	Cl
Et	6-Me	H	*i*-C_3F_7	Cl	Et	6-Cl	H	*i*-C_3F_7	Cl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl
Me	6-Me	H	CN	Cl	Me	6-Cl	H	CN	Cl
Et	6-Me	H	CN	Cl	Et	6-Cl	H	CN	Cl
i-Pr	6-Me	H	CN	Cl	*i*-Pr	6-Cl	H	CN	Cl
t-Bu	6-Me	H	CN	Cl	*t*-Bu	6-Cl	H	CN	Cl
Me	6-Me	H	$OCHF_2$	Br	Me	6-Cl	H	$OCHF_2$	Br
Et	6-Me	H	$OCHF_2$	Br	Et	6-Cl	H	$OCHF_2$	Br
i-Pr	6-Me	H	$OCHF_2$	Br	*i*-Pr	6-Cl	H	$OCHF_2$	Br
t-Bu	6-Me	H	$OCHF_2$	Br	*t*-Bu	6-Cl	H	$OCHF_2$	Br
Me	6-Me	H	$SCHF_2$	Br	Me	6-Cl	H	$SCHF_2$	Br
Et	6-Me	H	$SCHF_2$	Br	Et	6-Cl	H	$SCHF_2$	Br

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	6-Me	H	$SCHF_2$	Br	*i*-Pr	6-Cl	H	$SCHF_2$	Br
t-Bu	6-Me	H	$SCHF_2$	Br	*t*-Bu	6-Cl	H	$SCHF_2$	Br
Me	6-Me	H	OCF_3	Br	Me	6-Cl	H	OCF_3	Br
Et	6-Me	H	OCF_3	Br	Et	6-Cl	H	OCF_3	Br
i-Pr	6-Me	H	OCF_3	Br	*i*-Pr	6-Cl	H	OCF_3	Br
t-Bu	6-Me	H	OCF_3	Br	*t*-Bu	6-Cl	H	OCF_3	Br
Me	6-Me	H	SCF_3	Br	Me	6-Cl	H	SCF_3	Br
Et	6-Me	H	SCF_3	Br	Et	6-Cl	H	SCF_3	Br
i-Pr	6-Me	H	SCF_3	Br	*i*-Pr	6-Cl	H	SCF_3	Br
t-Bu	6-Me	H	SCF_3	Br	*t*-Bu	6-Cl	H	SCF_3	Br
Me	6-Me	H	C_2F_5	Br	Me	6-Cl	H	C_2F_5	Br
Et	6-Me	H	C_2F_5	Br	Et	6-Cl	H	C_2F_5	Br
i-Pr	6-Me	H	C_2F_5	Br	*i*-Pr	6-Cl	H	C_2F_5	Br
t-Bu	6-Me	H	C_2F_5	Br	*t*-Bu	6-Cl	H	C_2F_5	Br
Me	6-Me	H	*n*-C_3F_7	Br	Me	6-Cl	H	*n*-C_3F_7	Br
Et	6-Me	H	*n*-C_3F_7	Br	Et	6-Cl	H	*n*-C_3F_7	Br
i-Pr	6-Me	H	*n*-C_3F_7	Br	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br
t-Bu	6-Me	H	*n*-C_3F_7	Br	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br
Me	6-Me	H	*i*-C_3F_7	Br	Me	6-Cl	H	*i*-C_3F_7	Br
Et	6-Me	H	*i*-C_3F_7	Br	Et	6-Cl	H	*i*-C_3F_7	Br
i-Pr	6-Me	H	*i*-C_3F_7	Br	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br
t-Bu	6-Me	H	*i*-C_3F_7	Br	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br
Me	6-Me	H	CN	Br	Me	6-Cl	H	CN	Br
Et	6-Me	H	CN	Br	Et	6-Cl	H	CN	Br
i-Pr	6-Me	H	CN	Br	*i*-Pr	6-Cl	H	CN	Br
t-Bu	6-Me	H	CN	Br	*t*-Bu	6-Cl	H	CN	Br
Me	6-Me	H	$OCHF_2$	CF_3	Me	6-Cl	H	$OCHF_2$	CF_3
Et	6-Me	H	$OCHF_2$	CF_3	Et	6-Cl	H	$OCHF_2$	CF_3
i-Pr	6-Me	H	$OCHF_2$	CF_3	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3
t-Bu	6-Me	H	$OCHF_2$	CF_3	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3
Me	6-Me	H	$SCHF_2$	CF_3	Me	6-Cl	H	$SCHF_2$	CF_3
Et	6-Me	H	$SCHF_2$	CF_3	Et	6-Cl	H	$SCHF_2$	CF_3
i-Pr	6-Me	H	$SCHF_2$	CF_3	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3
t-Bu	6-Me	H	$SCHF_2$	CF_3	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3
Me	6-Me	H	OCF_3	CF_3	Me	6-Cl	H	OCF_3	CF_3
Et	6-Me	H	OCF_3	CF_3	Et	6-Cl	H	OCF_3	CF_3
i-Pr	6-Me	H	OCF_3	CF_3	*i*-Pr	6-Cl	H	OCF_3	CF_3

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	6-Me	H	OCF_3	CF_3	*t*-Bu	6-Cl	H	OCF_3	CF_3
Me	6-Me	H	SCF_3	CF_3	Me	6-Cl	H	SCF_3	CF_3
Et	6-Me	H	SCF_3	CF_3	Et	6-Cl	H	SCF_3	CF_3
i-Pr	6-Me	H	SCF_3	CF_3	*i*-Pr	6-Cl	H	SCF_3	CF_3
t-Bu	6-Me	H	SCF_3	CF_3	*t*-Bu	6-Cl	H	SCF_3	CF_3
Me	6-Me	H	C_2F_5	CF_3	Me	6-Cl	H	C_2F_5	CF_3
Et	6-Me	H	C_2F_5	CF_3	Et	6-Cl	H	C_2F_5	CF_3
i-Pr	6-Me	H	C_2F_5	CF_3	*i*-Pr	6-Cl	H	C_2F_5	CF_3
t-Bu	6-Me	H	C_2F_5	CF_3	*t*-Bu	6-Cl	H	C_2F_5	CF_3
Me	6-Me	H	*n*-C_3F_7	CF_3	Me	6-Cl	H	*n*-C_3F_7	CF_3
Et	6-Me	H	*n*-C_3F_7	CF_3	Et	6-Cl	H	*n*-C_3F_7	CF_3
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3
Me	6-Me	H	*i*-C_3F_7	CF_3	Me	6-Cl	H	*i*-C_3F_7	CF_3
Et	6-Me	H	*i*-C_3F_7	CF_3	Et	6-Cl	H	*i*-C_3F_7	CF_3
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3
Me	6-Me	H	CN	CF_3	Me	6-Cl	H	CN	CF_3
Et	6-Me	H	CN	CF_3	Et	6-Cl	H	CN	CF_3
i-Pr	6-Me	H	CN	CF_3	*i*-Pr	6-Cl	H	CN	CF_3
t-Bu	6-Me	H	CN	CF_3	*t*-Bu	6-Cl	H	CN	CF_3
Me	6-Me	Cl	$OCHF_2$	F	Me	6-Cl	Cl	$OCHF_2$	F
Et	6-Me	Cl	$OCHF_2$	F	Et	6-Cl	Cl	$OCHF_2$	F
i-Pr	6-Me	Cl	$OCHF_2$	F	*i*-Pr	6-Cl	Cl	$OCHF_2$	F
t-Bu	6-Me	Cl	$OCHF_2$	F	*t*-Bu	6-Cl	Cl	$OCHF_2$	F
Me	6-Me	Cl	$SCHF_2$	F	Me	6-Cl	Cl	$SCHF_2$	F
Et	6-Me	Cl	$SCHF_2$	F	Et	6-Cl	Cl	$SCHF_2$	F
i-Pr	6-Me	Cl	$SCHF_2$	F	*i*-Pr	6-Cl	Cl	$SCHF_2$	F
t-Bu	6-Me	Cl	$SCHF_2$	F	*t*-Bu	6-Cl	Cl	$SCHF_2$	F
Me	6-Me	Cl	OCF_3	F	Me	6-Cl	Cl	OCF_3	F
Et	6-Me	Cl	OCF_3	F	Et	6-Cl	Cl	OCF_3	F
i-Pr	6-Me	Cl	OCF_3	F	*i*-Pr	6-Cl	Cl	OCF_3	F
t-Bu	6-Me	Cl	OCF_3	F	*t*-Bu	6-Cl	Cl	OCF_3	F
Me	6-Me	Cl	SCF_3	F	Me	6-Cl	Cl	SCF_3	F
Et	6-Me	Cl	SCF_3	F	Et	6-Cl	Cl	SCF_3	F
i-Pr	6-Me	Cl	SCF_3	F	*i*-Pr	6-Cl	Cl	SCF_3	F
t-Bu	6-Me	Cl	SCF_3	F	*t*-Bu	6-Cl	Cl	SCF_3	F

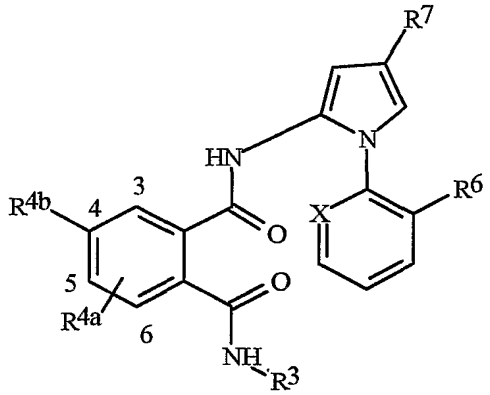
R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Me	6-Me	Cl	C_2F_5	F	Me	6-Cl	Cl	C_2F_5	F
Et	6-Me	Cl	C_2F_5	F	Et	6-Cl	Cl	C_2F_5	F
i-Pr	6-Me	Cl	C_2F_5	F	*i*-Pr	6-Cl	Cl	C_2F_5	F
t-Bu	6-Me	Cl	C_2F_5	F	*t*-Bu	6-Cl	Cl	C_2F_5	F
Me	6-Me	Cl	*n*-C_3F_7	F	Me	6-Cl	Cl	*n*-C_3F_7	F
Et	6-Me	Cl	*n*-C_3F_7	F	Et	6-Cl	Cl	*n*-C_3F_7	F
i-Pr	6-Me	Cl	*n*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F
t-Bu	6-Me	Cl	*n*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F
Me	6-Me	Cl	*i*-C_3F_7	F	Me	6-Cl	Cl	*i*-C_3F_7	F
Et	6-Me	Cl	*i*-C_3F_7	F	Et	6-Cl	Cl	*i*-C_3F_7	F
i-Pr	6-Me	Cl	*i*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F
t-Bu	6-Me	Cl	*i*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F
Me	6-Me	Cl	CN	F	Me	6-Cl	Cl	CN	F
Et	6-Me	Cl	CN	F	Et	6-Cl	Cl	CN	F
i-Pr	6-Me	Cl	CN	F	*i*-Pr	6-Cl	Cl	CN	F
t-Bu	6-Me	Cl	CN	F	*t*-Bu	6-Cl	Cl	CN	F
Me	6-Me	Cl	$OCHF_2$	Cl	Me	6-Cl	Cl	$OCHF_2$	Cl
Et	6-Me	Cl	$OCHF_2$	Cl	Et	6-Cl	Cl	$OCHF_2$	Cl
i-Pr	6-Me	Cl	$OCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl
t-Bu	6-Me	Cl	$OCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl
Me	6-Me	Cl	$SCHF_2$	Cl	Me	6-Cl	Cl	$SCHF_2$	Cl
Et	6-Me	Cl	$SCHF_2$	Cl	Et	6-Cl	Cl	$SCHF_2$	Cl
i-Pr	6-Me	Cl	$SCHF_2$	Cl	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl
t-Bu	6-Me	Cl	$SCHF_2$	Cl	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl
Me	6-Me	Cl	OCF_3	Cl	Me	6-Cl	Cl	OCF_3	Cl
Et	6-Me	Cl	OCF_3	Cl	Et	6-Cl	Cl	OCF_3	Cl
i-Pr	6-Me	Cl	OCF_3	Cl	*i*-Pr	6-Cl	Cl	OCF_3	Cl
t-Bu	6-Me	Cl	OCF_3	Cl	*t*-Bu	6-Cl	Cl	OCF_3	Cl
Me	6-Me	Cl	SCF_3	Cl	Me	6-Cl	Cl	SCF_3	Cl
Et	6-Me	Cl	SCF_3	Cl	Et	6-Cl	Cl	SCF_3	Cl
i-Pr	6-Me	Cl	SCF_3	Cl	*i*-Pr	6-Cl	Cl	SCF_3	Cl
t-Bu	6-Me	Cl	SCF_3	Cl	*t*-Bu	6-Cl	Cl	SCF_3	Cl
Me	6-Me	Cl	C_2F_5	Cl	Me	6-Cl	Cl	C_2F_5	Cl
Et	6-Me	Cl	C_2F_5	Cl	Et	6-Cl	Cl	C_2F_5	Cl
i-Pr	6-Me	Cl	C_2F_5	Cl	*i*-Pr	6-Cl	Cl	C_2F_5	Cl
t-Bu	6-Me	Cl	C_2F_5	Cl	*t*-Bu	6-Cl	Cl	C_2F_5	Cl
Me	6-Me	Cl	*n*-C_3F_7	Cl	Me	6-Cl	Cl	*n*-C_3F_7	Cl

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
Et	6-Me	Cl	n-C_3F_7	Cl	Et	6-Cl	Cl	n-C_3F_7	Cl
i-Pr	6-Me	Cl	n-C_3F_7	Cl	i-Pr	6-Cl	Cl	n-C_3F_7	Cl
t-Bu	6-Me	Cl	n-C_3F_7	Cl	t-Bu	6-Cl	Cl	n-C_3F_7	Cl
Me	6-Me	Cl	i-C_3F_7	Cl	Me	6-Cl	Cl	i-C_3F_7	Cl
Et	6-Me	Cl	i-C_3F_7	Cl	Et	6-Cl	Cl	i-C_3F_7	Cl
i-Pr	6-Me	Cl	i-C_3F_7	Cl	i-Pr	6-Cl	Cl	i-C_3F_7	Cl
t-Bu	6-Me	Cl	i-C_3F_7	Cl	t-Bu	6-Cl	Cl	i-C_3F_7	Cl
Me	6-Me	Cl	CN	Cl	Me	6-Cl	Cl	CN	Cl
Et	6-Me	Cl	CN	Cl	Et	6-Cl	Cl	CN	Cl
i-Pr	6-Me	Cl	CN	Cl	i-Pr	6-Cl	Cl	CN	Cl
t-Bu	6-Me	Cl	CN	Cl	t-Bu	6-Cl	Cl	CN	Cl
Me	6-Me	Cl	$OCHF_2$	Br	Me	6-Cl	Cl	$OCHF_2$	Br
Et	6-Me	Cl	$OCHF_2$	Br	Et	6-Cl	Cl	$OCHF_2$	Br
i-Pr	6-Me	Cl	$OCHF_2$	Br	i-Pr	6-Cl	Cl	$OCHF_2$	Br
t-Bu	6-Me	Cl	$OCHF_2$	Br	t-Bu	6-Cl	Cl	$OCHF_2$	Br
Me	6-Me	Cl	$SCHF_2$	Br	Me	6-Cl	Cl	$SCHF_2$	Br
Et	6-Me	Cl	$SCHF_2$	Br	Et	6-Cl	Cl	$SCHF_2$	Br
i-Pr	6-Me	Cl	$SCHF_2$	Br	i-Pr	6-Cl	Cl	$SCHF_2$	Br
t-Bu	6-Me	Cl	$SCHF_2$	Br	t-Bu	6-Cl	Cl	$SCHF_2$	Br
Me	6-Me	Cl	OCF_3	Br	Me	6-Cl	Cl	OCF_3	Br
Et	6-Me	Cl	OCF_3	Br	Et	6-Cl	Cl	OCF_3	Br
i-Pr	6-Me	Cl	OCF_3	Br	i-Pr	6-Cl	Cl	OCF_3	Br
t-Bu	6-Me	Cl	OCF_3	Br	t-Bu	6-Cl	Cl	OCF_3	Br
Me	6-Me	Cl	SCF_3	Br	Me	6-Cl	Cl	SCF_3	Br
Et	6-Me	Cl	SCF_3	Br	Et	6-Cl	Cl	SCF_3	Br
i-Pr	6-Me	Cl	SCF_3	Br	i-Pr	6-Cl	Cl	SCF_3	Br
t-Bu	6-Me	Cl	SCF_3	Br	t-Bu	6-Cl	Cl	SCF_3	Br
Me	6-Me	Cl	C_2F_5	Br	Me	6-Cl	Cl	C_2F_5	Br
Et	6-Me	Cl	C_2F_5	Br	Et	6-Cl	Cl	C_2F_5	Br
i-Pr	6-Me	Cl	C_2F_5	Br	i-Pr	6-Cl	Cl	C_2F_5	Br
t-Bu	6-Me	Cl	C_2F_5	Br	t-Bu	6-Cl	Cl	C_2F_5	Br
Me	6-Me	Cl	n-C_3F_7	Br	Me	6-Cl	Cl	n-C_3F_7	Br
Et	6-Me	Cl	n-C_3F_7	Br	Et	6-Cl	Cl	n-C_3F_7	Br
i-Pr	6-Me	Cl	n-C_3F_7	Br	i-Pr	6-Cl	Cl	n-C_3F_7	Br
t-Bu	6-Me	Cl	n-C_3F_7	Br	t-Bu	6-Cl	Cl	n-C_3F_7	Br
Me	6-Me	Cl	i-C_3F_7	Br	Me	6-Cl	Cl	i-C_3F_7	Br
Et	6-Me	Cl	i-C_3F_7	Br	Et	6-Cl	Cl	i-C_3F_7	Br

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br
Me	6-Me	Cl	CN	Br	Me	6-Cl	Cl	CN	Br
Et	6-Me	Cl	CN	Br	Et	6-Cl	Cl	CN	Br
i-Pr	6-Me	Cl	CN	Br	*i*-Pr	6-Cl	Cl	CN	Br
t-Bu	6-Me	Cl	CN	Br	*t*-Bu	6-Cl	Cl	CN	Br
Me	6-Me	Cl	$OCHF_2$	CF_3	Me	6-Cl	Cl	$OCHF_2$	CF_3
Et	6-Me	Cl	$OCHF_2$	CF_3	Et	6-Cl	Cl	$OCHF_2$	CF_3
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3
Me	6-Me	Cl	$SCHF_2$	CF_3	Me	6-Cl	Cl	$SCHF_2$	CF_3
Et	6-Me	Cl	$SCHF_2$	CF_3	Et	6-Cl	Cl	$SCHF_2$	CF_3
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3
Me	6-Me	Cl	OCF_3	CF_3	Me	6-Cl	Cl	OCF_3	CF_3
Et	6-Me	Cl	OCF_3	CF_3	Et	6-Cl	Cl	OCF_3	CF_3
i-Pr	6-Me	Cl	OCF_3	CF_3	*i*-Pr	6-Cl	Cl	OCF_3	CF_3
t-Bu	6-Me	Cl	OCF_3	CF_3	*t*-Bu	6-Cl	Cl	OCF_3	CF_3
Me	6-Me	Cl	SCF_3	CF_3	Me	6-Cl	Cl	SCF_3	CF_3
Et	6-Me	Cl	SCF_3	CF_3	Et	6-Cl	Cl	SCF_3	CF_3
i-Pr	6-Me	Cl	SCF_3	CF_3	*i*-Pr	6-Cl	Cl	SCF_3	CF_3
t-Bu	6-Me	Cl	SCF_3	CF_3	*t*-Bu	6-Cl	Cl	SCF_3	CF_3
Me	6-Me	Cl	C_2F_5	CF_3	Me	6-Cl	Cl	C_2F_5	CF_3
Et	6-Me	Cl	C_2F_5	CF_3	Et	6-Cl	Cl	C_2F_5	CF_3
i-Pr	6-Me	Cl	C_2F_5	CF_3	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3
t-Bu	6-Me	Cl	C_2F_5	CF_3	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3
Me	6-Me	Cl	*n*-C_3F_7	CF_3	Me	6-Cl	Cl	*n*-C_3F_7	CF_3
Et	6-Me	Cl	*n*-C_3F_7	CF_3	Et	6-Cl	Cl	*n*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3
Me	6-Me	Cl	*i*-C_3F_7	CF_3	Me	6-Cl	Cl	*i*-C_3F_7	CF_3
Et	6-Me	Cl	*i*-C_3F_7	CF_3	Et	6-Cl	Cl	*i*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3
Me	6-Me	Cl	CN	CF_3	Me	6-Cl	Cl	CN	CF_3
Et	6-Me	Cl	CN	CF_3	Et	6-Cl	Cl	CN	CF_3
i-Pr	6-Me	Cl	CN	CF_3	*i*-Pr	6-Cl	Cl	CN	CF_3

R^3	R^{4a}	R^{4b}	R^7	R^6	R^3	R^{4a}	R^{4b}	R^7	R^6
t-Bu	6-Me	Cl	CN	CF_3	*t*-Bu	6-Cl	Cl	CN	CF_3

Table 15



R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	$OCHF_2$	F	CH	Me	6-Cl	H	$OCHF_2$	F	CH
Et	6-Me	H	$OCHF_2$	F	CH	Et	6-Cl	H	$OCHF_2$	F	CH
i-Pr	6-Me	H	$OCHF_2$	F	CH	*i*-Pr	6-Cl	H	$OCHF_2$	F	CH
t-Bu	6-Me	H	$OCHF_2$	F	CH	*t*-Bu	6-Cl	H	$OCHF_2$	F	CH
Me	6-Me	H	$SCHF_2$	F	CH	Me	6-Cl	H	$SCHF_2$	F	CH
Et	6-Me	H	$SCHF_2$	F	CH	Et	6-Cl	H	$SCHF_2$	F	CH
i-Pr	6-Me	H	$SCHF_2$	F	CH	*i*-Pr	6-Cl	H	$SCHF_2$	F	CH
t-Bu	6-Me	H	$SCHF_2$	F	CH	*t*-Bu	6-Cl	H	$SCHF_2$	F	CH
Me	6-Me	H	OCF_3	F	CH	Me	6-Cl	H	OCF_3	F	CH
Et	6-Me	H	OCF_3	F	CH	Et	6-Cl	H	OCF_3	F	CH
i-Pr	6-Me	H	OCF_3	F	CH	*i*-Pr	6-Cl	H	OCF_3	F	CH
t-Bu	6-Me	H	OCF_3	F	CH	*t*-Bu	6-Cl	H	OCF_3	F	CH
Me	6-Me	H	SCF_3	F	CH	Me	6-Cl	H	SCF_3	F	CH
Et	6-Me	H	SCF_3	F	CH	Et	6-Cl	H	SCF_3	F	CH
i-Pr	6-Me	H	SCF_3	F	CH	*i*-Pr	6-Cl	H	SCF_3	F	CH
t-Bu	6-Me	H	SCF_3	F	CH	*t*-Bu	6-Cl	H	SCF_3	F	CH
Me	6-Me	H	C_2F_5	F	CH	Me	6-Cl	H	C_2F_5	F	CH
Et	6-Me	H	C_2F_5	F	CH	Et	6-Cl	H	C_2F_5	F	CH
i-Pr	6-Me	H	C_2F_5	F	CH	*i*-Pr	6-Cl	H	C_2F_5	F	CH
t-Bu	6-Me	H	C_2F_5	F	CH	*t*-Bu	6-Cl	H	C_2F_5	F	CH
Me	6-Me	H	*n*-C_3F_7	F	CH	Me	6-Cl	H	*n*-C_3F_7	F	CH
Et	6-Me	H	*n*-C_3F_7	F	CH	Et	6-Cl	H	*n*-C_3F_7	F	CH
i-Pr	6-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CH
Me	6-Me	H	*i*-C_3F_7	F	CH	Me	6-Cl	H	*i*-C_3F_7	F	CH
Et	6-Me	H	*i*-C_3F_7	F	CH	Et	6-Cl	H	*i*-C_3F_7	F	CH
i-Pr	6-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CH
t-Bu	6-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CH
Me	6-Me	H	CN	F	CH	Me	6-Cl	H	CN	F	CH
Et	6-Me	H	CN	F	CH	Et	6-Cl	H	CN	F	CH
i-Pr	6-Me	H	CN	F	CH	*i*-Pr	6-Cl	H	CN	F	CH
t-Bu	6-Me	H	CN	F	CH	*t*-Bu	6-Cl	H	CN	F	CH
Me	6-Me	H	$OCHF_2$	Cl	CH	Me	6-Cl	H	$OCHF_2$	Cl	CH
Et	6-Me	H	$OCHF_2$	Cl	CH	Et	6-Cl	H	$OCHF_2$	Cl	CH
i-Pr	6-Me	H	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CH
t-Bu	6-Me	H	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CH
Me	6-Me	H	$SCHF_2$	Cl	CH	Me	6-Cl	H	$SCHF_2$	Cl	CH
Et	6-Me	H	$SCHF_2$	Cl	CH	Et	6-Cl	H	$SCHF_2$	Cl	CH
i-Pr	6-Me	H	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CH
t-Bu	6-Me	H	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CH
Me	6-Me	H	OCF_3	Cl	CH	Me	6-Cl	H	OCF_3	Cl	CH
Et	6-Me	H	OCF_3	Cl	CH	Et	6-Cl	H	OCF_3	Cl	CH
i-Pr	6-Me	H	OCF_3	Cl	CH	*i*-Pr	6-Cl	H	OCF_3	Cl	CH
t-Bu	6-Me	H	OCF_3	Cl	CH	*t*-Bu	6-Cl	H	OCF_3	Cl	CH
Me	6-Me	H	SCF_3	Cl	CH	Me	6-Cl	H	SCF_3	Cl	CH
Et	6-Me	H	SCF_3	Cl	CH	Et	6-Cl	H	SCF_3	Cl	CH
i-Pr	6-Me	H	SCF_3	Cl	CH	*i*-Pr	6-Cl	H	SCF_3	Cl	CH
t-Bu	6-Me	H	SCF_3	Cl	CH	*t*-Bu	6-Cl	H	SCF_3	Cl	CH
Me	6-Me	H	C_2F_5	Cl	CH	Me	6-Cl	H	C_2F_5	Cl	CH
Et	6-Me	H	C_2F_5	Cl	CH	Et	6-Cl	H	C_2F_5	Cl	CH
i-Pr	6-Me	H	C_2F_5	Cl	CH	*i*-Pr	6-Cl	H	C_2F_5	Cl	CH
t-Bu	6-Me	H	C_2F_5	Cl	CH	*t*-Bu	6-Cl	H	C_2F_5	Cl	CH
Me	6-Me	H	*n*-C_3F_7	Cl	CH	Me	6-Cl	H	*n*-C_3F_7	Cl	CH
Et	6-Me	H	*n*-C_3F_7	Cl	CH	Et	6-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CH
Me	6-Me	H	*i*-C_3F_7	Cl	CH	Me	6-Cl	H	*i*-C_3F_7	Cl	CH
Et	6-Me	H	*i*-C_3F_7	Cl	CH	Et	6-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	H	CN	Cl	CH	Me	6-Cl	H	CN	Cl	CH
Et	6-Me	H	CN	Cl	CH	Et	6-Cl	H	CN	Cl	CH
i-Pr	6-Me	H	CN	Cl	CH	*i*-Pr	6-Cl	H	CN	Cl	CH
t-Bu	6-Me	H	CN	Cl	CH	*t*-Bu	6-Cl	H	CN	Cl	CH
Me	6-Me	H	$OCHF_2$	Br	CH	Me	6-Cl	H	$OCHF_2$	Br	CH
Et	6-Me	H	$OCHF_2$	Br	CH	Et	6-Cl	H	$OCHF_2$	Br	CH
i-Pr	6-Me	H	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$OCHF_2$	Br	CH
t-Bu	6-Me	H	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$OCHF_2$	Br	CH
Me	6-Me	H	$SCHF_2$	Br	CH	Me	6-Cl	H	$SCHF_2$	Br	CH
Et	6-Me	H	$SCHF_2$	Br	CH	Et	6-Cl	H	$SCHF_2$	Br	CH
i-Pr	6-Me	H	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	H	$SCHF_2$	Br	CH
t-Bu	6-Me	H	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	H	$SCHF_2$	Br	CH
Me	6-Me	H	OCF_3	Br	CH	Me	6-Cl	H	OCF_3	Br	CH
Et	6-Me	H	OCF_3	Br	CH	Et	6-Cl	H	OCF_3	Br	CH
i-Pr	6-Me	H	OCF_3	Br	CH	*i*-Pr	6-Cl	H	OCF_3	Br	CH
t-Bu	6-Me	H	OCF_3	Br	CH	*t*-Bu	6-Cl	H	OCF_3	Br	CH
Me	6-Me	H	SCF_3	Br	CH	Me	6-Cl	H	SCF_3	Br	CH
Et	6-Me	H	SCF_3	Br	CH	Et	6-Cl	H	SCF_3	Br	CH
i-Pr	6-Me	H	SCF_3	Br	CH	*i*-Pr	6-Cl	H	SCF_3	Br	CH
t-Bu	6-Me	H	SCF_3	Br	CH	*t*-Bu	6-Cl	H	SCF_3	Br	CH
Me	6-Me	H	C_2F_5	Br	CH	Me	6-Cl	H	C_2F_5	Br	CH
Et	6-Me	H	C_2F_5	Br	CH	Et	6-Cl	H	C_2F_5	Br	CH
i-Pr	6-Me	H	C_2F_5	Br	CH	*i*-Pr	6-Cl	H	C_2F_5	Br	CH
t-Bu	6-Me	H	C_2F_5	Br	CH	*t*-Bu	6-Cl	H	C_2F_5	Br	CH
Me	6-Me	H	*n*-C_3F_7	Br	CH	Me	6-Cl	H	*n*-C_3F_7	Br	CH
Et	6-Me	H	*n*-C_3F_7	Br	CH	Et	6-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	6-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	6-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br	CH
Me	6-Me	H	*i*-C_3F_7	Br	CH	Me	6-Cl	H	*i*-C_3F_7	Br	CH
Et	6-Me	H	*i*-C_3F_7	Br	CH	Et	6-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	6-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	6-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br	CH
Me	6-Me	H	CN	Br	CH	Me	6-Cl	H	CN	Br	CH
Et	6-Me	H	CN	Br	CH	Et	6-Cl	H	CN	Br	CH
i-Pr	6-Me	H	CN	Br	CH	*i*-Pr	6-Cl	H	CN	Br	CH
t-Bu	6-Me	H	CN	Br	CH	*t*-Bu	6-Cl	H	CN	Br	CH
Me	6-Me	H	$OCHF_2$	CF_3	CH	Me	6-Cl	H	$OCHF_2$	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	H	$OCHF_2$	CF_3	CH	Et	6-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	6-Me	H	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	H	$OCHF_2$	CF_3	CH
t-Bu	6-Me	H	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	H	$OCHF_2$	CF_3	CH
Me	6-Me	H	$SCHF_2$	CF_3	CH	Me	6-Cl	H	$SCHF_2$	CF_3	CH
Et	6-Me	H	$SCHF_2$	CF_3	CH	Et	6-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	6-Me	H	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	6-Me	H	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	H	$SCHF_2$	CF_3	CH
Me	6-Me	H	OCF_3	CF_3	CH	Me	6-Cl	H	OCF_3	CF_3	CH
Et	6-Me	H	OCF_3	CF_3	CH	Et	6-Cl	H	OCF_3	CF_3	CH
i-Pr	6-Me	H	OCF_3	CF_3	CH	*i*-Pr	6-Cl	H	OCF_3	CF_3	CH
t-Bu	6-Me	H	OCF_3	CF_3	CH	*t*-Bu	6-Cl	H	OCF_3	CF_3	CH
Me	6-Me	H	SCF_3	CF_3	CH	Me	6-Cl	H	SCF_3	CF_3	CH
Et	6-Me	H	SCF_3	CF_3	CH	Et	6-Cl	H	SCF_3	CF_3	CH
i-Pr	6-Me	H	SCF_3	CF_3	CH	*i*-Pr	6-Cl	H	SCF_3	CF_3	CH
t-Bu	6-Me	H	SCF_3	CF_3	CH	*t*-Bu	6-Cl	H	SCF_3	CF_3	CH
Me	6-Me	H	C_2F_5	CF_3	CH	Me	6-Cl	H	C_2F_5	CF_3	CH
Et	6-Me	H	C_2F_5	CF_3	CH	Et	6-Cl	H	C_2F_5	CF_3	CH
i-Pr	6-Me	H	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	H	C_2F_5	CF_3	CH
t-Bu	6-Me	H	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	H	C_2F_5	CF_3	CH
Me	6-Me	H	*n*-C_3F_7	CF_3	CH	Me	6-Cl	H	*n*-C_3F_7	CF_3	CH
Et	6-Me	H	*n*-C_3F_7	CF_3	CH	Et	6-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3	CH
Me	6-Me	H	*i*-C_3F_7	CF_3	CH	Me	6-Cl	H	*i*-C_3F_7	CF_3	CH
Et	6-Me	H	*i*-C_3F_7	CF_3	CH	Et	6-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3	CH
Me	6-Me	H	CN	CF_3	CH	Me	6-Cl	H	CN	CF_3	CH
Et	6-Me	H	CN	CF_3	CH	Et	6-Cl	H	CN	CF_3	CH
i-Pr	6-Me	H	CN	CF_3	CH	*i*-Pr	6-Cl	H	CN	CF_3	CH
t-Bu	6-Me	H	CN	CF_3	CH	*t*-Bu	6-Cl	H	CN	CF_3	CH
Me	6-Me	Cl	$OCHF_2$	F	CH	Me	6-Cl	Cl	$OCHF_2$	F	CH
Et	6-Me	Cl	$OCHF_2$	F	CH	Et	6-Cl	Cl	$OCHF_2$	F	CH
i-Pr	6-Me	Cl	$OCHF_2$	F	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	F	CH
t-Bu	6-Me	Cl	$OCHF_2$	F	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	F	CH
Me	6-Me	Cl	$SCHF_2$	F	CH	Me	6-Cl	Cl	$SCHF_2$	F	CH
Et	6-Me	Cl	$SCHF_2$	F	CH	Et	6-Cl	Cl	$SCHF_2$	F	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	Cl	$SCHF_2$	F	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	F	CH
t-Bu	6-Me	Cl	$SCHF_2$	F	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	F	CH
Me	6-Me	Cl	OCF_3	F	CH	Me	6-Cl	Cl	OCF_3	F	CH
Et	6-Me	Cl	OCF_3	F	CH	Et	6-Cl	Cl	OCF_3	F	CH
i-Pr	6-Me	Cl	OCF_3	F	CH	*i*-Pr	6-Cl	Cl	OCF_3	F	CH
t-Bu	6-Me	Cl	OCF_3	F	CH	*t*-Bu	6-Cl	Cl	OCF_3	F	CH
Me	6-Me	Cl	SCF_3	F	CH	Me	6-Cl	Cl	SCF_3	F	CH
Et	6-Me	Cl	SCF_3	F	CH	Et	6-Cl	Cl	SCF_3	F	CH
i-Pr	6-Me	Cl	SCF_3	F	CH	*i*-Pr	6-Cl	Cl	SCF_3	F	CH
t-Bu	6-Me	Cl	SCF_3	F	CH	*t*-Bu	6-Cl	Cl	SCF_3	F	CH
Me	6-Me	Cl	C_2F_5	F	CH	Me	6-Cl	Cl	C_2F_5	F	CH
Et	6-Me	Cl	C_2F_5	F	CH	Et	6-Cl	Cl	C_2F_5	F	CH
i-Pr	6-Me	Cl	C_2F_5	F	CH	*i*-Pr	6-Cl	Cl	C_2F_5	F	CH
t-Bu	6-Me	Cl	C_2F_5	F	CH	*t*-Bu	6-Cl	Cl	C_2F_5	F	CH
Me	6-Me	Cl	*n*-C_3F_7	F	CH	Me	6-Cl	Cl	*n*-C_3F_7	F	CH
Et	6-Me	Cl	*n*-C_3F_7	F	CH	Et	6-Cl	Cl	*n*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F	CH
Me	6-Me	Cl	*i*-C_3F_7	F	CH	Me	6-Cl	Cl	*i*-C_3F_7	F	CH
Et	6-Me	Cl	*i*-C_3F_7	F	CH	Et	6-Cl	Cl	*i*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F	CH
Me	6-Me	Cl	CN	F	CH	Me	6-Cl	Cl	CN	F	CH
Et	6-Me	Cl	CN	F	CH	Et	6-Cl	Cl	CN	F	CH
i-Pr	6-Me	Cl	CN	F	CH	*i*-Pr	6-Cl	Cl	CN	F	CH
t-Bu	6-Me	Cl	CN	F	CH	*t*-Bu	6-Cl	Cl	CN	F	CH
Me	6-Me	Cl	$OCHF_2$	Cl	CH	Me	6-Cl	Cl	$OCHF_2$	Cl	CH
Et	6-Me	Cl	$OCHF_2$	Cl	CH	Et	6-Cl	Cl	$OCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$OCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$OCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Cl	CH
Me	6-Me	Cl	$SCHF_2$	Cl	CH	Me	6-Cl	Cl	$SCHF_2$	Cl	CH
Et	6-Me	Cl	$SCHF_2$	Cl	CH	Et	6-Cl	Cl	$SCHF_2$	Cl	CH
i-Pr	6-Me	Cl	$SCHF_2$	Cl	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Cl	CH
t-Bu	6-Me	Cl	$SCHF_2$	Cl	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Cl	CH
Me	6-Me	Cl	OCF_3	Cl	CH	Me	6-Cl	Cl	OCF_3	Cl	CH
Et	6-Me	Cl	OCF_3	Cl	CH	Et	6-Cl	Cl	OCF_3	Cl	CH
i-Pr	6-Me	Cl	OCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	OCF_3	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	Cl	OCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	OCF_3	Cl	CH
Me	6-Me	Cl	SCF_3	Cl	CH	Me	6-Cl	Cl	SCF_3	Cl	CH
Et	6-Me	Cl	SCF_3	Cl	CH	Et	6-Cl	Cl	SCF_3	Cl	CH
i-Pr	6-Me	Cl	SCF_3	Cl	CH	*i*-Pr	6-Cl	Cl	SCF_3	Cl	CH
t-Bu	6-Me	Cl	SCF_3	Cl	CH	*t*-Bu	6-Cl	Cl	SCF_3	Cl	CH
Me	6-Me	Cl	C_2F_5	Cl	CH	Me	6-Cl	Cl	C_2F_5	Cl	CH
Et	6-Me	Cl	C_2F_5	Cl	CH	Et	6-Cl	Cl	C_2F_5	Cl	CH
i-Pr	6-Me	Cl	C_2F_5	Cl	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Cl	CH
t-Bu	6-Me	Cl	C_2F_5	Cl	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Cl	CH
Me	6-Me	Cl	*n*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Et	6-Me	Cl	*n*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Me	6-Me	Cl	*i*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Et	6-Me	Cl	*i*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Me	6-Me	Cl	CN	Cl	CH	Me	6-Cl	Cl	CN	Cl	CH
Et	6-Me	Cl	CN	Cl	CH	Et	6-Cl	Cl	CN	Cl	CH
i-Pr	6-Me	Cl	CN	Cl	CH	*i*-Pr	6-Cl	Cl	CN	Cl	CH
t-Bu	6-Me	Cl	CN	Cl	CH	*t*-Bu	6-Cl	Cl	CN	Cl	CH
Me	6-Me	Cl	$OCHF_2$	Br	CH	Me	6-Cl	Cl	$OCHF_2$	Br	CH
Et	6-Me	Cl	$OCHF_2$	Br	CH	Et	6-Cl	Cl	$OCHF_2$	Br	CH
i-Pr	6-Me	Cl	$OCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	Br	CH
t-Bu	6-Me	Cl	$OCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	Br	CH
Me	6-Me	Cl	$SCHF_2$	Br	CH	Me	6-Cl	Cl	$SCHF_2$	Br	CH
Et	6-Me	Cl	$SCHF_2$	Br	CH	Et	6-Cl	Cl	$SCHF_2$	Br	CH
i-Pr	6-Me	Cl	$SCHF_2$	Br	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	Br	CH
t-Bu	6-Me	Cl	$SCHF_2$	Br	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	Br	CH
Me	6-Me	Cl	OCF_3	Br	CH	Me	6-Cl	Cl	OCF_3	Br	CH
Et	6-Me	Cl	OCF_3	Br	CH	Et	6-Cl	Cl	OCF_3	Br	CH
i-Pr	6-Me	Cl	OCF_3	Br	CH	*i*-Pr	6-Cl	Cl	OCF_3	Br	CH
t-Bu	6-Me	Cl	OCF_3	Br	CH	*t*-Bu	6-Cl	Cl	OCF_3	Br	CH
Me	6-Me	Cl	SCF_3	Br	CH	Me	6-Cl	Cl	SCF_3	Br	CH
Et	6-Me	Cl	SCF_3	Br	CH	Et	6-Cl	Cl	SCF_3	Br	CH
i-Pr	6-Me	Cl	SCF_3	Br	CH	*i*-Pr	6-Cl	Cl	SCF_3	Br	CH
t-Bu	6-Me	Cl	SCF_3	Br	CH	*t*-Bu	6-Cl	Cl	SCF_3	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	6-Me	Cl	C_2F_5	Br	CH	Me	6-Cl	Cl	C_2F_5	Br	CH
Et	6-Me	Cl	C_2F_5	Br	CH	Et	6-Cl	Cl	C_2F_5	Br	CH
i-Pr	6-Me	Cl	C_2F_5	Br	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Br	CH
t-Bu	6-Me	Cl	C_2F_5	Br	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Br	CH
Me	6-Me	Cl	*n*-C_3F_7	Br	CH	Me	6-Cl	Cl	*n*-C_3F_7	Br	CH
Et	6-Me	Cl	*n*-C_3F_7	Br	CH	Et	6-Cl	Cl	*n*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br	CH
Me	6-Me	Cl	*i*-C_3F_7	Br	CH	Me	6-Cl	Cl	*i*-C_3F_7	Br	CH
Et	6-Me	Cl	*i*-C_3F_7	Br	CH	Et	6-Cl	Cl	*i*-C_3F_7	Br	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br	CH
Me	6-Me	Cl	CN	Br	CH	Me	6-Cl	Cl	CN	Br	CH
Et	6-Me	Cl	CN	Br	CH	Et	6-Cl	Cl	CN	Br	CH
i-Pr	6-Me	Cl	CN	Br	CH	*i*-Pr	6-Cl	Cl	CN	Br	CH
t-Bu	6-Me	Cl	CN	Br	CH	*t*-Bu	6-Cl	Cl	CN	Br	CH
Me	6-Me	Cl	$OCHF_2$	CF_3	CH	Me	6-Cl	Cl	$OCHF_2$	CF_3	CH
Et	6-Me	Cl	$OCHF_2$	CF_3	CH	Et	6-Cl	Cl	$OCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$OCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$OCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$OCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$OCHF_2$	CF_3	CH
Me	6-Me	Cl	$SCHF_2$	CF_3	CH	Me	6-Cl	Cl	$SCHF_2$	CF_3	CH
Et	6-Me	Cl	$SCHF_2$	CF_3	CH	Et	6-Cl	Cl	$SCHF_2$	CF_3	CH
i-Pr	6-Me	Cl	$SCHF_2$	CF_3	CH	*i*-Pr	6-Cl	Cl	$SCHF_2$	CF_3	CH
t-Bu	6-Me	Cl	$SCHF_2$	CF_3	CH	*t*-Bu	6-Cl	Cl	$SCHF_2$	CF_3	CH
Me	6-Me	Cl	OCF_3	CF_3	CH	Me	6-Cl	Cl	OCF_3	CF_3	CH
Et	6-Me	Cl	OCF_3	CF_3	CH	Et	6-Cl	Cl	OCF_3	CF_3	CH
i-Pr	6-Me	Cl	OCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	OCF_3	CF_3	CH
t-Bu	6-Me	Cl	OCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	OCF_3	CF_3	CH
Me	6-Me	Cl	SCF_3	CF_3	CH	Me	6-Cl	Cl	SCF_3	CF_3	CH
Et	6-Me	Cl	SCF_3	CF_3	CH	Et	6-Cl	Cl	SCF_3	CF_3	CH
i-Pr	6-Me	Cl	SCF_3	CF_3	CH	*i*-Pr	6-Cl	Cl	SCF_3	CF_3	CH
t-Bu	6-Me	Cl	SCF_3	CF_3	CH	*t*-Bu	6-Cl	Cl	SCF_3	CF_3	CH
Me	6-Me	Cl	C_2F_5	CF_3	CH	Me	6-Cl	Cl	C_2F_5	CF_3	CH
Et	6-Me	Cl	C_2F_5	CF_3	CH	Et	6-Cl	Cl	C_2F_5	CF_3	CH
i-Pr	6-Me	Cl	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3	CH
t-Bu	6-Me	Cl	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3	CH
Me	6-Me	Cl	*n*-C_3F_7	CF_3	CH	Me	6-Cl	Cl	*n*-C_3F_7	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	6-Me	Cl	n-C_3F_7	CF_3	CH	Et	6-Cl	Cl	n-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	n-C_3F_7	CF_3	CH	i-Pr	6-Cl	Cl	n-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	n-C_3F_7	CF_3	CH	t-Bu	6-Cl	Cl	n-C_3F_7	CF_3	CH
Me	6-Me	Cl	i-C_3F_7	CF_3	CH	Me	6-Cl	Cl	i-C_3F_7	CF_3	CH
Et	6-Me	Cl	i-C_3F_7	CF_3	CH	Et	6-Cl	Cl	i-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	i-C_3F_7	CF_3	CH	i-Pr	6-Cl	Cl	i-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	i-C_3F_7	CF_3	CH	t-Bu	6-Cl	Cl	i-C_3F_7	CF_3	CH
Me	6-Me	Cl	CN	CF_3	CH	Me	6-Cl	Cl	CN	CF_3	CH
Et	6-Me	Cl	CN	CF_3	CH	Et	6-Cl	Cl	CN	CF_3	CH
i-Pr	6-Me	Cl	CN	CF_3	CH	i-Pr	6-Cl	Cl	CN	CF_3	CH
t-Bu	6-Me	Cl	CN	CF_3	CH	t-Bu	6-Cl	Cl	CN	CF_3	CH
Me	6-Me	H	$OCHF_2$	F	CF	Me	6-Cl	H	$OCHF_2$	F	CF
Et	6-Me	H	$OCHF_2$	F	CF	Et	6-Cl	H	$OCHF_2$	F	CF
i-Pr	6-Me	H	$OCHF_2$	F	CF	i-Pr	6-Cl	H	$OCHF_2$	F	CF
t-Bu	6-Me	H	$OCHF_2$	F	CF	t-Bu	6-Cl	H	$OCHF_2$	F	CF
Me	6-Me	H	$SCHF_2$	F	CF	Me	6-Cl	H	$SCHF_2$	F	CF
Et	6-Me	H	$SCHF_2$	F	CF	Et	6-Cl	H	$SCHF_2$	F	CF
i-Pr	6-Me	H	$SCHF_2$	F	CF	i-Pr	6-Cl	H	$SCHF_2$	F	CF
t-Bu	6-Me	H	$SCHF_2$	F	CF	t-Bu	6-Cl	H	$SCHF_2$	F	CF
Me	6-Me	H	OCF_3	F	CF	Me	6-Cl	H	OCF_3	F	CF
Et	6-Me	H	OCF_3	F	CF	Et	6-Cl	H	OCF_3	F	CF
i-Pr	6-Me	H	OCF_3	F	CF	i-Pr	6-Cl	H	OCF_3	F	CF
t-Bu	6-Me	H	OCF_3	F	CF	t-Bu	6-Cl	H	OCF_3	F	CF
Me	6-Me	H	SCF_3	F	CF	Me	6-Cl	H	SCF_3	F	CF
Et	6-Me	H	SCF_3	F	CF	Et	6-Cl	H	SCF_3	F	CF
i-Pr	6-Me	H	SCF_3	F	CF	i-Pr	6-Cl	H	SCF_3	F	CF
t-Bu	6-Me	H	SCF_3	F	CF	t-Bu	6-Cl	H	SCF_3	F	CF
Me	6-Me	H	C_2F_5	F	CF	Me	6-Cl	H	C_2F_5	F	CF
Et	6-Me	H	C_2F_5	F	CF	Et	6-Cl	H	C_2F_5	F	CF
i-Pr	6-Me	H	C_2F_5	F	CF	i-Pr	6-Cl	H	C_2F_5	F	CF
t-Bu	6-Me	H	C_2F_5	F	CF	t-Bu	6-Cl	H	C_2F_5	F	CF
Me	6-Me	H	n-C_3F_7	F	CF	Me	6-Cl	H	n-C_3F_7	F	CF
Et	6-Me	H	n-C_3F_7	F	CF	Et	6-Cl	H	n-C_3F_7	F	CF
i-Pr	6-Me	H	n-C_3F_7	F	CF	i-Pr	6-Cl	H	n-C_3F_7	F	CF
t-Bu	6-Me	H	n-C_3F_7	F	CF	t-Bu	6-Cl	H	n-C_3F_7	F	CF
Me	6-Me	H	i-C_3F_7	F	CF	Me	6-Cl	H	i-C_3F_7	F	CF
Et	6-Me	H	i-C_3F_7	F	CF	Et	6-Cl	H	i-C_3F_7	F	CF

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	6-Me	H	*i*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CF
t-Bu	6-Me	H	*i*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CF
Me	6-Me	H	CN	F	CF	Me	6-Cl	H	CN	F	CF
Et	6-Me	H	CN	F	CF	Et	6-Cl	H	CN	F	CF
i-Pr	6-Me	H	CN	F	CF	*i*-Pr	6-Cl	H	CN	F	CF
t-Bu	6-Me	H	CN	F	CF	*t*-Bu	6-Cl	H	CN	F	CF
Me	6-Me	H	$OCHF_2$	Cl	CCl	Me	6-Cl	H	$OCHF_2$	Cl	CCl
Et	6-Me	H	$OCHF_2$	Cl	CCl	Et	6-Cl	H	$OCHF_2$	Cl	CCl
i-Pr	6-Me	H	$OCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$OCHF_2$	Cl	CCl
t-Bu	6-Me	H	$OCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$OCHF_2$	Cl	CCl
Me	6-Me	H	$SCHF_2$	Cl	CCl	Me	6-Cl	H	$SCHF_2$	Cl	CCl
Et	6-Me	H	$SCHF_2$	Cl	CCl	Et	6-Cl	H	$SCHF_2$	Cl	CCl
i-Pr	6-Me	H	$SCHF_2$	Cl	CCl	*i*-Pr	6-Cl	H	$SCHF_2$	Cl	CCl
t-Bu	6-Me	H	$SCHF_2$	Cl	CCl	*t*-Bu	6-Cl	H	$SCHF_2$	Cl	CCl
Me	6-Me	H	OCF_3	Cl	CCl	Me	6-Cl	H	OCF_3	Cl	CCl
Et	6-Me	H	OCF_3	Cl	CCl	Et	6-Cl	H	OCF_3	Cl	CCl
i-Pr	6-Me	H	OCF_3	Cl	CCl	*i*-Pr	6-Cl	H	OCF_3	Cl	CCl
t-Bu	6-Me	H	OCF_3	Cl	CCl	*t*-Bu	6-Cl	H	OCF_3	Cl	CCl
Me	6-Me	H	SCF_3	Cl	CCl	Me	6-Cl	H	SCF_3	Cl	CCl
Et	6-Me	H	SCF_3	Cl	CCl	Et	6-Cl	H	SCF_3	Cl	CCl
i-Pr	6-Me	H	SCF_3	Cl	CCl	*i*-Pr	6-Cl	H	SCF_3	Cl	CCl
t-Bu	6-Me	H	SCF_3	Cl	CCl	*t*-Bu	6-Cl	H	SCF_3	Cl	CCl
Me	6-Me	H	C_2F_5	Cl	CCl	Me	6-Cl	H	C_2F_5	Cl	CCl
Et	6-Me	H	C_2F_5	Cl	CCl	Et	6-Cl	H	C_2F_5	Cl	CCl
i-Pr	6-Me	H	C_2F_5	Cl	CCl	*i*-Pr	6-Cl	H	C_2F_5	Cl	CCl
t-Bu	6-Me	H	C_2F_5	Cl	CCl	*t*-Bu	6-Cl	H	C_2F_5	Cl	CCl
Me	6-Me	H	*n*-C_3F_7	Cl	CCl	Me	6-Cl	H	*n*-C_3F_7	Cl	CCl
Et	6-Me	H	*n*-C_3F_7	Cl	CCl	Et	6-Cl	H	*n*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CCl
Me	6-Me	H	*i*-C_3F_7	Cl	CCl	Me	6-Cl	H	*i*-C_3F_7	Cl	CCl
Et	6-Me	H	*i*-C_3F_7	Cl	CCl	Et	6-Cl	H	*i*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CCl
Me	6-Me	H	CN	Cl	CCl	Me	6-Cl	H	CN	Cl	CCl
Et	6-Me	H	CN	Cl	CCl	Et	6-Cl	H	CN	Cl	CCl
i-Pr	6-Me	H	CN	Cl	CCl	*i*-Pr	6-Cl	H	CN	Cl	CCl

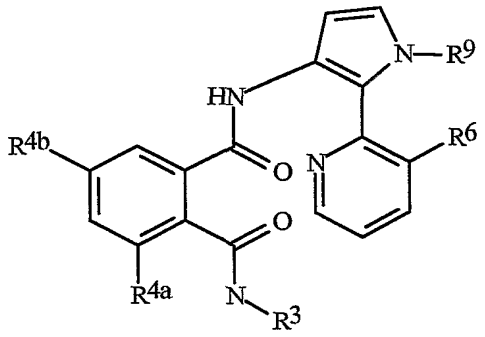
R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
t-Bu	6-Me	H	CN	Cl	CCl	*t*-Bu	6-Cl	H	CN	Cl	CCl
Me	3-Me	H	$OCHF_2$	F	CH	Me	3-Cl	H	$OCHF_2$	F	CH
Et	3-Me	H	$OCHF_2$	F	CH	Et	3-Cl	H	$OCHF_2$	F	CH
i-Pr	3-Me	H	$OCHF_2$	F	CH	*i*-Pr	3-Cl	H	$OCHF_2$	F	CH
t-Bu	3-Me	H	$OCHF_2$	F	CH	*t*-Bu	3-Cl	H	$OCHF_2$	F	CH
Me	3-Me	H	$SCHF_2$	F	CH	Me	3-Cl	H	$SCHF_2$	F	CH
Et	3-Me	H	$SCHF_2$	F	CH	Et	3-Cl	H	$SCHF_2$	F	CH
i-Pr	3-Me	H	$SCHF_2$	F	CH	*i*-Pr	3-Cl	H	$SCHF_2$	F	CH
t-Bu	3-Me	H	$SCHF_2$	F	CH	*t*-Bu	3-Cl	H	$SCHF_2$	F	CH
Me	3-Me	H	OCF_3	F	CH	Me	3-Cl	H	OCF_3	F	CH
Et	3-Me	H	OCF_3	F	CH	Et	3-Cl	H	OCF_3	F	CH
i-Pr	3-Me	H	OCF_3	F	CH	*i*-Pr	3-Cl	H	OCF_3	F	CH
t-Bu	3-Me	H	OCF_3	F	CH	*t*-Bu	3-Cl	H	OCF_3	F	CH
Me	3-Me	H	SCF_3	F	CH	Me	3-Cl	H	SCF_3	F	CH
Et	3-Me	H	SCF_3	F	CH	Et	3-Cl	H	SCF_3	F	CH
i-Pr	3-Me	H	SCF_3	F	CH	*i*-Pr	3-Cl	H	SCF_3	F	CH
t-Bu	3-Me	H	SCF_3	F	CH	*t*-Bu	3-Cl	H	SCF_3	F	CH
Me	3-Me	H	C_2F_5	F	CH	Me	3-Cl	H	C_2F_5	F	CH
Et	3-Me	H	C_2F_5	F	CH	Et	3-Cl	H	C_2F_5	F	CH
i-Pr	3-Me	H	C_2F_5	F	CH	*i*-Pr	3-Cl	H	C_2F_5	F	CH
t-Bu	3-Me	H	C_2F_5	F	CH	*t*-Bu	3-Cl	H	C_2F_5	F	CH
Me	3-Me	H	*n*-C_3F_7	F	CH	Me	3-Cl	H	*n*-C_3F_7	F	CH
Et	3-Me	H	*n*-C_3F_7	F	CH	Et	3-Cl	H	*n*-C_3F_7	F	CH
i-Pr	3-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	F	CH
t-Bu	3-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	F	CH
Me	3-Me	H	*i*-C_3F_7	F	CH	Me	3-Cl	H	*i*-C_3F_7	F	CH
Et	3-Me	H	*i*-C_3F_7	F	CH	Et	3-Cl	H	*i*-C_3F_7	F	CH
i-Pr	3-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	F	CH
t-Bu	3-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	F	CH
Me	3-Me	H	CN	F	CH	Me	3-Cl	H	CN	F	CH
Et	3-Me	H	CN	F	CH	Et	3-Cl	H	CN	F	CH
i-Pr	3-Me	H	CN	F	CH	*i*-Pr	3-Cl	H	CN	F	CH
t-Bu	3-Me	H	CN	F	CH	*t*-Bu	3-Cl	H	CN	F	CH
Me	3-Me	H	$OCHF_2$	Cl	CH	Me	3-Cl	H	$OCHF_2$	Cl	CH
Et	3-Me	H	$OCHF_2$	Cl	CH	Et	3-Cl	H	$OCHF_2$	Cl	CH
i-Pr	3-Me	H	$OCHF_2$	Cl	CH	*i*-Pr	3-Cl	H	$OCHF_2$	Cl	CH
t-Bu	3-Me	H	$OCHF_2$	Cl	CH	*t*-Bu	3-Cl	H	$OCHF_2$	Cl	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Me	3-Me	H	$SCHF_2$	Cl	CH	Me	3-Cl	H	$SCHF_2$	Cl	CH
Et	3-Me	H	$SCHF_2$	Cl	CH	Et	3-Cl	H	$SCHF_2$	Cl	CH
i-Pr	3-Me	H	$SCHF_2$	Cl	CH	*i*-Pr	3-Cl	H	$SCHF_2$	Cl	CH
t-Bu	3-Me	H	$SCHF_2$	Cl	CH	*t*-Bu	3-Cl	H	$SCHF_2$	Cl	CH
Me	3-Me	H	OCF_3	Cl	CH	Me	3-Cl	H	OCF_3	Cl	CH
Et	3-Me	H	OCF_3	Cl	CH	Et	3-Cl	H	OCF_3	Cl	CH
i-Pr	3-Me	H	OCF_3	Cl	CH	*i*-Pr	3-Cl	H	OCF_3	Cl	CH
t-Bu	3-Me	H	OCF_3	Cl	CH	*t*-Bu	3-Cl	H	OCF_3	Cl	CH
Me	3-Me	H	SCF_3	Cl	CH	Me	3-Cl	H	SCF_3	Cl	CH
Et	3-Me	H	SCF_3	Cl	CH	Et	3-Cl	H	SCF_3	Cl	CH
i-Pr	3-Me	H	SCF_3	Cl	CH	*i*-Pr	3-Cl	H	SCF_3	Cl	CH
t-Bu	3-Me	H	SCF_3	Cl	CH	*t*-Bu	3-Cl	H	SCF_3	Cl	CH
Me	3-Me	H	C_2F_5	Cl	CH	Me	3-Cl	H	C_2F_5	Cl	CH
Et	3-Me	H	C_2F_5	Cl	CH	Et	3-Cl	H	C_2F_5	Cl	CH
i-Pr	3-Me	H	C_2F_5	Cl	CH	*i*-Pr	3-Cl	H	C_2F_5	Cl	CH
t-Bu	3-Me	H	C_2F_5	Cl	CH	*t*-Bu	3-Cl	H	C_2F_5	Cl	CH
Me	3-Me	H	*n*-C_3F_7	Cl	CH	Me	3-Cl	H	*n*-C_3F_7	Cl	CH
Et	3-Me	H	*n*-C_3F_7	Cl	CH	Et	3-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	3-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	3-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	Cl	CH
Me	3-Me	H	*i*-C_3F_7	Cl	CH	Me	3-Cl	H	*i*-C_3F_7	Cl	CH
Et	3-Me	H	*i*-C_3F_7	Cl	CH	Et	3-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	3-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	3-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	Cl	CH
Me	3-Me	H	CN	Cl	CH	Me	3-Cl	H	CN	Cl	CH
Et	3-Me	H	CN	Cl	CH	Et	3-Cl	H	CN	Cl	CH
i-Pr	3-Me	H	CN	Cl	CH	*i*-Pr	3-Cl	H	CN	Cl	CH
t-Bu	3-Me	H	CN	Cl	CH	*t*-Bu	3-Cl	H	CN	Cl	CH
Me	3-Me	H	$OCHF_2$	Br	CH	Me	3-Cl	H	$OCHF_2$	Br	CH
Et	3-Me	H	$OCHF_2$	Br	CH	Et	3-Cl	H	$OCHF_2$	Br	CH
i-Pr	3-Me	H	$OCHF_2$	Br	CH	*i*-Pr	3-Cl	H	$OCHF_2$	Br	CH
t-Bu	3-Me	H	$OCHF_2$	Br	CH	*t*-Bu	3-Cl	H	$OCHF_2$	Br	CH
Me	3-Me	H	$SCHF_2$	Br	CH	Me	3-Cl	H	$SCHF_2$	Br	CH
Et	3-Me	H	$SCHF_2$	Br	CH	Et	3-Cl	H	$SCHF_2$	Br	CH
i-Pr	3-Me	H	$SCHF_2$	Br	CH	*i*-Pr	3-Cl	H	$SCHF_2$	Br	CH
t-Bu	3-Me	H	$SCHF_2$	Br	CH	*t*-Bu	3-Cl	H	$SCHF_2$	Br	CH
Me	3-Me	H	OCF_3	Br	CH	Me	3-Cl	H	OCF_3	Br	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
Et	3-Me	H	OCF_3	Br	CH	Et	3-Cl	H	OCF_3	Br	CH
i-Pr	3-Me	H	OCF_3	Br	CH	*i*-Pr	3-Cl	H	OCF_3	Br	CH
t-Bu	3-Me	H	OCF_3	Br	CH	*t*-Bu	3-Cl	H	OCF_3	Br	CH
Me	3-Me	H	SCF_3	Br	CH	Me	3-Cl	H	SCF_3	Br	CH
Et	3-Me	H	SCF_3	Br	CH	Et	3-Cl	H	SCF_3	Br	CH
i-Pr	3-Me	H	SCF_3	Br	CH	*i*-Pr	3-Cl	H	SCF_3	Br	CH
t-Bu	3-Me	H	SCF_3	Br	CH	*t*-Bu	3-Cl	H	SCF_3	Br	CH
Me	3-Me	H	C_2F_5	Br	CH	Me	3-Cl	H	C_2F_5	Br	CH
Et	3-Me	H	C_2F_5	Br	CH	Et	3-Cl	H	C_2F_5	Br	CH
i-Pr	3-Me	H	C_2F_5	Br	CH	*i*-Pr	3-Cl	H	C_2F_5	Br	CH
t-Bu	3-Me	H	C_2F_5	Br	CH	*t*-Bu	3-Cl	H	C_2F_5	Br	CH
Me	3-Me	H	*n*-C_3F_7	Br	CH	Me	3-Cl	H	*n*-C_3F_7	Br	CH
Et	3-Me	H	*n*-C_3F_7	Br	CH	Et	3-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	3-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	3-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	Br	CH
Me	3-Me	H	*i*-C_3F_7	Br	CH	Me	3-Cl	H	*i*-C_3F_7	Br	CH
Et	3-Me	H	*i*-C_3F_7	Br	CH	Et	3-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	3-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	3-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	Br	CH
Me	3-Me	H	CN	Br	CH	Me	3-Cl	H	CN	Br	CH
Et	3-Me	H	CN	Br	CH	Et	3-Cl	H	CN	Br	CH
i-Pr	3-Me	H	CN	Br	CH	*i*-Pr	3-Cl	H	CN	Br	CH
t-Bu	3-Me	H	CN	Br	CH	*t*-Bu	3-Cl	H	CN	Br	CH
Me	3-Me	H	$OCHF_2$	CF_3	CH	Me	3-Cl	H	$OCHF_2$	CF_3	CH
Et	3-Me	H	$OCHF_2$	CF_3	CH	Et	3-Cl	H	$OCHF_2$	CF_3	CH
i-Pr	3-Me	H	$OCHF_2$	CF_3	CH	*i*-Pr	3-Cl	H	$OCHF_2$	CF_3	CH
t-Bu	3-Me	H	$OCHF_2$	CF_3	CH	*t*-Bu	3-Cl	H	$OCHF_2$	CF_3	CH
Me	3-Me	H	$SCHF_2$	CF_3	CH	Me	3-Cl	H	$SCHF_2$	CF_3	CH
Et	3-Me	H	$SCHF_2$	CF_3	CH	Et	3-Cl	H	$SCHF_2$	CF_3	CH
i-Pr	3-Me	H	$SCHF_2$	CF_3	CH	*i*-Pr	3-Cl	H	$SCHF_2$	CF_3	CH
t-Bu	3-Me	H	$SCHF_2$	CF_3	CH	*t*-Bu	3-Cl	H	$SCHF_2$	CF_3	CH
Me	3-Me	H	OCF_3	CF_3	CH	Me	3-Cl	H	OCF_3	CF_3	CH
Et	3-Me	H	OCF_3	CF_3	CH	Et	3-Cl	H	OCF_3	CF_3	CH
i-Pr	3-Me	H	OCF_3	CF_3	CH	*i*-Pr	3-Cl	H	OCF_3	CF_3	CH
t-Bu	3-Me	H	OCF_3	CF_3	CH	*t*-Bu	3-Cl	H	OCF_3	CF_3	CH
Me	3-Me	H	SCF_3	CF_3	CH	Me	3-Cl	H	SCF_3	CF_3	CH
Et	3-Me	H	SCF_3	CF_3	CH	Et	3-Cl	H	SCF_3	CF_3	CH

R^3	R^{4a}	R^{4b}	R^7	R^6	X	R^3	R^{4a}	R^{4b}	R^7	R^6	X
i-Pr	3-Me	H	SCF_3	CF_3	CH	*i*-Pr	3-Cl	H	SCF_3	CF_3	CH
t-Bu	3-Me	H	SCF_3	CF_3	CH	*t*-Bu	3-Cl	H	SCF_3	CF_3	CH
Me	3-Me	H	C_2F_5	CF_3	CH	Me	3-Cl	H	C_2F_5	CF_3	CH
Et	3-Me	H	C_2F_5	CF_3	CH	Et	3-Cl	H	C_2F_5	CF_3	CH
i-Pr	3-Me	H	C_2F_5	CF_3	CH	*i*-Pr	3-Cl	H	C_2F_5	CF_3	CH
t-Bu	3-Me	H	C_2F_5	CF_3	CH	*t*-Bu	3-Cl	H	C_2F_5	CF_3	CH
Me	3-Me	H	*n*-C_3F_7	CF_3	CH	Me	3-Cl	H	*n*-C_3F_7	CF_3	CH
Et	3-Me	H	*n*-C_3F_7	CF_3	CH	Et	3-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	3-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	3-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	3-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	3-Cl	H	*n*-C_3F_7	CF_3	CH
Me	3-Me	H	*i*-C_3F_7	CF_3	CH	Me	3-Cl	H	*i*-C_3F_7	CF_3	CH
Et	3-Me	H	*i*-C_3F_7	CF_3	CH	Et	3-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	3-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	3-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	3-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	3-Cl	H	*i*-C_3F_7	CF_3	CH
Me	3-Me	H	CN	CF_3	CH	Me	3-Cl	H	CN	CF_3	CH
Et	3-Me	H	CN	CF_3	CH	Et	3-Cl	H	CN	CF_3	CH
i-Pr	3-Me	H	CN	CF_3	CH	*i*-Pr	3-Cl	H	CN	CF_3	CH
t-Bu	3-Me	H	CN	CF_3	CH	*t*-Bu	3-Cl	H	CN	CF_3	CH

Table 16



R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	F	CF_3	Me	Cl	Cl	Br	CH_2CF_3	Me	Br
CH_3	F	CF_3	Et	Cl	Cl	Br	CH_2CF_3	Et	Br
CH_3	F	CF_3	*i*-Pr	Cl	Cl	Br	CH_2CF_3	*i*-Pr	Br
CH_3	F	CF_3	*t*-Bu	Cl	Cl	Br	CH_2CF_3	*t*-Bu	Br
CH_3	F	CF_3	Me	Br	Cl	Br	CF_2CHF_2	Me	Cl
CH_3	F	CF_3	Et	Br	Cl	Br	CF_2CHF_2	Et	Cl
CH_3	F	CF_3	*i*-Pr	Br	Cl	Br	CF_2CHF_2	*i*-Pr	Cl
CH_3	F	CF_3	*t*-Bu	Br	Cl	Br	CF_2CHF_2	*t*-Bu	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	F	CH_2CF_3	Me	Cl	Cl	Br	CF_2CHF_2	Me	Br
CH_3	F	CH_2CF_3	Et	Cl	Cl	Br	CF_2CHF_2	Et	Br
CH_3	F	CH_2CF_3	*i*-Pr	Cl	Cl	Br	CF_2CHF_2	*i*-Pr	Br
CH_3	F	CH_2CF_3	*t*-Bu	Cl	Cl	Br	CF_2CHF_2	*t*-Bu	Br
CH_3	F	CH_2CF_3	Me	Br	Cl	I	CF_3	Me	Cl
CH_3	F	CH_2CF_3	Et	Br	Cl	I	CF_3	Et	Cl
CH_3	F	CH_2CF_3	*i*-Pr	Br	Cl	I	CF_3	*i*-Pr	Cl
CH_3	F	CH_2CF_3	*t*-Bu	Br	Cl	I	CF_3	*t*-Bu	Cl
CH_3	F	CF_2CHF_2	Me	Cl	Cl	I	CF_3	Me	Br
CH_3	F	CF_2CHF_2	Et	Cl	Cl	I	CF_3	Et	Br
CH_3	F	CF_2CHF_2	*i*-Pr	Cl	Cl	I	CF_3	*i*-Pr	Br
CH_3	F	CF_2CHF_2	*t*-Bu	Cl	Cl	I	CF_3	*t*-Bu	Br
CH_3	F	CF_2CHF_2	Me	Br	Cl	I	CH_2CF_3	Me	Cl
CH_3	F	CF_2CHF_2	Et	Br	Cl	I	CH_2CF_3	Et	Cl
CH_3	F	CF_2CHF_2	*i*-Pr	Br	Cl	I	CH_2CF_3	*i*-Pr	Cl
CH_3	F	CF_2CHF_2	*t*-Bu	Br	Cl	I	CH_2CF_3	*t*-Bu	Cl
CH_3	Cl	CF_3	Me	Cl	Cl	I	CH_2CF_3	Me	Br
CH_3	Cl	CF_3	Et	Cl	Cl	I	CH_2CF_3	Et	Br
CH_3	Cl	CF_3	*i*-Pr	Cl	Cl	I	CH_2CF_3	*i*-Pr	Br
CH_3	Cl	CF_3	*t*-Bu	Cl	Cl	I	CH_2CF_3	*t*-Bu	Br
CH_3	Cl	CF_3	Me	Br	Cl	I	CF_2CHF_2	Me	Cl
CH_3	Cl	CF_3	Et	Br	Cl	I	CF_2CHF_2	Et	Cl
CH_3	Cl	CF_3	*i*-Pr	Br	Cl	I	CF_2CHF_2	*i*-Pr	Cl
CH_3	Cl	CF_3	*t*-Bu	Br	Cl	I	CF_2CHF_2	*t*-Bu	Cl
CH_3	Cl	CH_2CF_3	Me	Cl	Cl	I	CF_2CHF_2	Me	Br
CH_3	Cl	CH_2CF_3	Et	Cl	Cl	I	CF_2CHF_2	Et	Br
CH_3	Cl	CH_2CF_3	*i*-Pr	Cl	Cl	I	CF_2CHF_2	*i*-Pr	Br
CH_3	Cl	CH_2CF_3	*t*-Bu	Cl	Cl	I	CF_2CHF_2	*t*-Bu	Br
CH_3	Cl	CH_2CF_3	Me	Br	Cl	CF_3	CF_3	Me	Cl
CH_3	Cl	CH_2CF_3	Et	Br	Cl	CF_3	CF_3	Et	Cl
CH_3	Cl	CH_2CF_3	*i*-Pr	Br	Cl	CF_3	CF_3	*i*-Pr	Cl
CH_3	Cl	CH_2CF_3	*t*-Bu	Br	Cl	CF_3	CF_3	*t*-Bu	Cl
CH_3	Cl	CF_2CHF_2	Me	Cl	Cl	CF_3	CF_3	Me	Br
CH_3	Cl	CF_2CHF_2	Et	Cl	Cl	CF_3	CF_3	Et	Br
CH_3	Cl	CF_2CHF_2	*i*-Pr	Cl	Cl	CF_3	CF_3	*i*-Pr	Br
CH_3	Cl	CF_2CHF_2	*t*-Bu	Cl	Cl	CF_3	CF_3	*t*-Bu	Br
CH_3	Cl	CF_2CHF_2	Me	Br	Cl	CF_3	CH_2CF_3	Me	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	Cl	CF_2CHF_2	Et	Br	Cl	CF_3	CH_2CF_3	Et	Cl
CH_3	Cl	CF_2CHF_2	*i*-Pr	Br	Cl	CF_3	CH_2CF_3	*i*-Pr	Cl
CH_3	Cl	CF_2CHF_2	*t*-Bu	Br	Cl	CF_3	CH_2CF_3	*t*-Bu	Cl
CH_3	Br	CF_3	Me	Cl	Cl	CF_3	CH_2CF_3	Me	Br
CH_3	Br	CF_3	Et	Cl	Cl	CF_3	CH_2CF_3	Et	Br
CH_3	Br	CF_3	*i*-Pr	Cl	Cl	CF_3	CH_2CF_3	*i*-Pr	Br
CH_3	Br	CF_3	*t*-Bu	Cl	Cl	CF_3	CH_2CF_3	*t*-Bu	Br
CH_3	Br	CF_3	Me	Br	Cl	CF_3	CF_2CHF_2	Me	Cl
CH_3	Br	CF_3	Et	Br	Cl	CF_3	CF_2CHF_2	Et	Cl
CH_3	Br	CF_3	*i*-Pr	Br	Cl	CF_3	CF_2CHF_2	*i*-Pr	Cl
CH_3	Br	CF_3	*t*-Bu	Br	Cl	CF_3	CF_2CHF_2	*t*-Bu	Cl
CH_3	Br	CH_2CF_3	Me	Cl	Cl	CF_3	CF_2CHF_2	Me	Br
CH_3	Br	CH_2CF_3	Et	Cl	Cl	CF_3	CF_2CHF_2	Et	Br
CH_3	Br	CH_2CF_3	*i*-Pr	Cl	Cl	CF_3	CF_2CHF_2	*i*-Pr	Br
CH_3	Br	CH_2CF_3	*t*-Bu	Cl	Cl	CF_3	CF_2CHF_2	*t*-Bu	Br
CH_3	Br	CH_2CF_3	Me	Br	Cl	Cl	CH_2CF_3	*n*-Pr	Cl
CH_3	Br	CH_2CF_3	Et	Br	Cl	Cl	CH_2CF_3	*n*-Bu	Cl
CH_3	Br	CH_2CF_3	*i*-Pr	Br	Cl	Cl	CH_2CF_3	*s*-Bu	Cl
CH_3	Br	CH_2CF_3	*t*-Bu	Br	Cl	Cl	CH_2CF_3	*i*-Bu	Cl
CH_3	Br	CF_2CHF_2	Me	Cl	Br	F	CF_3	Me	Cl
CH_3	Br	CF_2CHF_2	Et	Cl	Br	F	CF_3	Et	Cl
CH_3	Br	CF_2CHF_2	*i*-Pr	Cl	Br	F	CF_3	*i*-Pr	Cl
CH_3	Br	CF_2CHF_2	*t*-Bu	Cl	Br	F	CF_3	*t*-Bu	Cl
CH_3	Br	CF_2CHF_2	Me	Br	Br	F	CF_3	Me	Br
CH_3	Br	CF_2CHF_2	Et	Br	Br	F	CF_3	Et	Br
CH_3	Br	CF_2CHF_2	*i*-Pr	Br	Br	F	CF_3	*i*-Pr	Br
CH_3	Br	CF_2CHF_2	*t*-Bu	Br	Br	F	CF_3	*t*-Bu	Br
CH_3	I	CF_3	Me	Cl	Br	F	CH_2CF_3	Me	Cl
CH_3	I	CF_3	Et	Cl	Br	F	CH_2CF_3	Et	Cl
CH_3	I	CF_3	*i*-Pr	Cl	Br	F	CH_2CF_3	*i*-Pr	Cl
CH_3	I	CF_3	*t*-Bu	Cl	Br	F	CH_2CF_3	*t*-Bu	Cl
CH_3	I	CF_3	Me	Br	Br	F	CH_2CF_3	Me	Br
CH_3	I	CF_3	Et	Br	Br	F	CH_2CF_3	Et	Br
CH_3	I	CF_3	*i*-Pr	Br	Br	F	CH_2CF_3	*i*-Pr	Br
CH_3	I	CF_3	*t*-Bu	Br	Br	F	CH_2CF_3	*t*-Bu	Br
CH_3	I	CH_2CF_3	Me	Cl	Br	F	CF_2CHF_2	Me	Cl
CH_3	I	CH_2CF_3	Et	Cl	Br	F	CF_2CHF_2	Et	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	I	CH_2CF_3	*i*-Pr	Cl	Br	F	CF_2CHF_2	*i*-Pr	Cl
CH_3	I	CH_2CF_3	*t*-Bu	Cl	Br	F	CF_2CHF_2	*t*-Bu	Cl
CH_3	I	CH_2CF_3	Me	Br	Br	F	CF_2CHF_2	Me	Br
CH_3	I	CH_2CF_3	Et	Br	Br	F	CF_2CHF_2	Et	Br
CH_3	I	CH_2CF_3	*i*-Pr	Br	Br	F	CF_2CHF_2	*i*-Pr	Br
CH_3	I	CH_2CF_3	*t*-Bu	Br	Br	F	CF_2CHF_2	*t*-Bu	Br
CH_3	I	CF_2CHF_2	Me	Cl	Br	Cl	CF_3	Me	Cl
CH_3	I	CF_2CHF_2	Et	Cl	Br	Cl	CF_3	Et	Cl
CH_3	I	CF_2CHF_2	*i*-Pr	Cl	Br	Cl	CF_3	*i*-Pr	Cl
CH_3	I	CF_2CHF_2	*t*-Bu	Cl	Br	Cl	CF_3	*t*-Bu	Cl
CH_3	I	CF_2CHF_2	Me	Br	Br	Cl	CF_3	Me	Br
CH_3	I	CF_2CHF_2	Et	Br	Br	Cl	CF_3	Et	Br
CH_3	I	CF_2CHF_2	*i*-Pr	Br	Br	Cl	CF_3	*i*-Pr	Br
CH_3	I	CF_2CHF_2	*t*-Bu	Br	Br	Cl	CF_3	*t*-Bu	Br
CH_3	CF_3	CF_3	Me	Cl	Br	Cl	CH_2CF_3	Me	Cl
CH_3	CF_3	CF_3	Et	Cl	Br	Cl	CH_2CF_3	Et	Cl
CH_3	CF_3	CF_3	*i*-Pr	Cl	Br	Cl	CH_2CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_3	*t*-Bu	Cl	Br	Cl	CH_2CF_3	*t*-Bu	Cl
CH_3	CF_3	CF_3	Me	Br	Br	Cl	CH_2CF_3	Me	Br
CH_3	CF_3	CF_3	Et	Br	Br	Cl	CH_2CF_3	Et	Br
CH_3	CF_3	CF_3	*i*-Pr	Br	Br	Cl	CH_2CF_3	*i*-Pr	Br
CH_3	CF_3	CF_3	*t*-Bu	Br	Br	Cl	CH_2CF_3	*t*-Bu	Br
CH_3	CF_3	CH_2CF_3	Me	Cl	Br	Cl	CF_2CHF_2	Me	Cl
CH_3	CF_3	CH_2CF_3	Et	Cl	Br	Cl	CF_2CHF_2	Et	Cl
CH_3	CF_3	CH_2CF_3	*i*-Pr	Cl	Br	Cl	CF_2CHF_2	*i*-Pr	Cl
CH_3	CF_3	CH_2CF_3	*t*-Bu	Cl	Br	Cl	CF_2CHF_2	*t*-Bu	Cl
CH_3	CF_3	CH_2CF_3	Me	Br	Br	Cl	CF_2CHF_2	Me	Br
CH_3	CF_3	CH_2CF_3	Et	Br	Br	Cl	CF_2CHF_2	Et	Br
CH_3	CF_3	CH_2CF_3	*i*-Pr	Br	Br	Cl	CF_2CHF_2	*i*-Pr	Br
CH_3	CF_3	CH_2CF_3	*t*-Bu	Br	Br	Cl	CF_2CHF_2	*t*-Bu	Br
CH_3	CF_3	CF_2CHF_2	Me	Cl	Br	Br	CF_3	Me	Cl
CH_3	CF_3	CF_2CHF_2	Et	Cl	Br	Br	CF_3	Et	Cl
CH_3	CF_3	CF_2CHF_2	*i*-Pr	Cl	Br	Br	CF_3	*i*-Pr	Cl
CH_3	CF_3	CF_2CHF_2	*t*-Bu	Cl	Br	Br	CF_3	*t*-Bu	Cl
CH_3	CF_3	CF_2CHF_2	Me	Br	Br	Br	CF_3	Me	Br
CH_3	CF_3	CF_2CHF_2	Et	Br	Br	Br	CF_3	Et	Br
CH_3	CF_3	CF_2CHF_2	*i*-Pr	Br	Br	Br	CF_3	*i*-Pr	Br

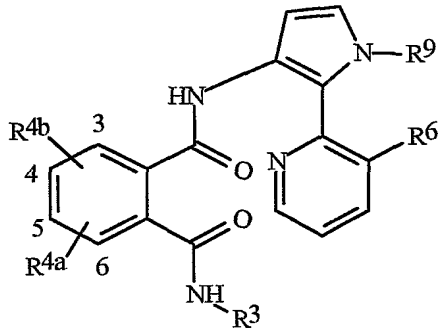
R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	CF_3	CF_2CHF_2	*t*-Bu	Br	Br	Br	CF_3	*t*-Bu	Br
CH_3	Cl	CH_2CF_3	*n*-Pr	Cl	Br	Br	CH_2CF_3	Me	Cl
CH_3	Cl	CH_2CF_3	*n*-Bu	Cl	Br	Br	CH_2CF_3	Et	Cl
CH_3	Cl	CH_2CF_3	*s*-Bu	Cl	Br	Br	CH_2CF_3	*i*-Pr	Cl
CH_3	Cl	CH_2CF_3	*i*-Bu	Cl	Br	Br	CH_2CF_3	*t*-Bu	Cl
Cl	F	CF_3	Me	Cl	Br	Br	CH_2CF_3	Me	Br
Cl	F	CF_3	Et	Cl	Br	Br	CH_2CF_3	Et	Br
Cl	F	CF_3	*i*-Pr	Cl	Br	Br	CH_2CF_3	*i*-Pr	Br
Cl	F	CF_3	*t*-Bu	Cl	Br	Br	CH_2CF_3	*t*-Bu	Br
Cl	F	CF_3	Me	Br	Br	Br	CF_2CHF_2	Me	Cl
Cl	F	CF_3	Et	Br	Br	Br	CF_2CHF_2	Et	Cl
Cl	F	CF_3	*i*-Pr	Br	Br	Br	CF_2CHF_2	*i*-Pr	Cl
Cl	F	CF_3	*t*-Bu	Br	Br	Br	CF_2CHF_2	*t*-Bu	Cl
Cl	F	CH_2CF_3	Me	Cl	Br	Br	CF_2CHF_2	Me	Br
Cl	F	CH_2CF_3	Et	Cl	Br	Br	CF_2CHF_2	Et	Br
Cl	F	CH_2CF_3	*i*-Pr	Cl	Br	Br	CF_2CHF_2	*i*-Pr	Br
Cl	F	CH_2CF_3	*t*-Bu	Cl	Br	Br	CF_2CHF_2	*t*-Bu	Br
Cl	F	CH_2CF_3	Me	Br	Br	I	CF_3	Me	Cl
Cl	F	CH_2CF_3	Et	Br	Br	I	CF_3	Et	Cl
Cl	F	CH_2CF_3	*i*-Pr	Br	Br	I	CF_3	*i*-Pr	Cl
Cl	F	CH_2CF_3	*t*-Bu	Br	Br	I	CF_3	*t*-Bu	Cl
Cl	F	CF_2CHF_2	Me	Cl	Br	I	CF_3	Me	Br
Cl	F	CF_2CHF_2	Et	Cl	Br	I	CF_3	Et	Br
Cl	F	CF_2CHF_2	*i*-Pr	Cl	Br	I	CF_3	*i*-Pr	Br
Cl	F	CF_2CHF_2	*t*-Bu	Cl	Br	I	CF_3	*t*-Bu	Br
Cl	F	CF_2CHF_2	Me	Br	Br	I	CH_2CF_3	Me	Cl
Cl	F	CF_2CHF_2	Et	Br	Br	I	CH_2CF_3	Et	Cl
Cl	F	CF_2CHF_2	*i*-Pr	Br	Br	I	CH_2CF_3	*i*-Pr	Cl
Cl	F	CF_2CHF_2	*t*-Bu	Br	Br	I	CH_2CF_3	*t*-Bu	Cl
Cl	Cl	CF_3	Me	Cl	Br	I	CH_2CF_3	Me	Br
Cl	Cl	CF_3	Et	Cl	Br	I	CH_2CF_3	Et	Br
Cl	Cl	CF_3	*i*-Pr	Cl	Br	I	CH_2CF_3	*i*-Pr	Br
Cl	Cl	CF_3	*t*-Bu	Cl	Br	I	CH_2CF_3	*t*-Bu	Br
Cl	Cl	CF_3	Me	Br	Br	I	CF_2CHF_2	Me	Cl
Cl	Cl	CF_3	Et	Br	Br	I	CF_2CHF_2	Et	Cl
Cl	Cl	CF_3	*i*-Pr	Br	Br	I	CF_2CHF_2	*i*-Pr	Cl
Cl	Cl	CF_3	*t*-Bu	Br	Br	I	CF_2CHF_2	*t*-Bu	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
Cl	Cl	CH_2CF_3	Me	Cl	Br	I	CF_2CHF_2	Me	Br
Cl	Cl	CH_2CF_3	Et	Cl	Br	I	CF_2CHF_2	Et	Br
Cl	Cl	CH_2CF_3	*i*-Pr	Cl	Br	I	CF_2CHF_2	*i*-Pr	Br
Cl	Cl	CH_2CF_3	*t*-Bu	Cl	Br	I	CF_2CHF_2	*t*-Bu	Br
Cl	Cl	CH_2CF_3	Me	Br	Br	CF_3	CF_3	Me	Cl
Cl	Cl	CH_2CF_3	Et	Br	Br	CF_3	CF_3	Et	Cl
Cl	Cl	CH_2CF_3	*i*-Pr	Br	Br	CF_3	CF_3	*i*-Pr	Cl
Cl	Cl	CH_2CF_3	*t*-Bu	Br	Br	CF_3	CF_3	*t*-Bu	Cl
Cl	Cl	CF_2CHF_2	Me	Cl	Br	CF_3	CF_3	Me	Br
Cl	Cl	CF_2CHF_2	Et	Cl	Br	CF_3	CF_3	Et	Br
Cl	Cl	CF_2CHF_2	*i*-Pr	Cl	Br	CF_3	CF_3	*i*-Pr	Br
Cl	Cl	CF_2CHF_2	*t*-Bu	Cl	Br	CF_3	CF_3	*t*-Bu	Br
Cl	Cl	CF_2CHF_2	Me	Br	Br	CF_3	CH_2CF_3	Me	Cl
Cl	Cl	CF_2CHF_2	Et	Br	Br	CF_3	CH_2CF_3	Et	Cl
Cl	Cl	CF_2CHF_2	*i*-Pr	Br	Br	CF_3	CH_2CF_3	*i*-Pr	Cl
Cl	Cl	CF_2CHF_2	*t*-Bu	Br	Br	CF_3	CH_2CF_3	*t*-Bu	Cl
Cl	Br	CF_3	Me	Cl	Br	CF_3	CH_2CF_3	Me	Br
Cl	Br	CF_3	Et	Cl	Br	CF_3	CH_2CF_3	Et	Br
Cl	Br	CF_3	*i*-Pr	Cl	Br	CF_3	CH_2CF_3	*i*-Pr	Br
Cl	Br	CF_3	*t*-Bu	Cl	Br	CF_3	CH_2CF_3	*t*-Bu	Br
Cl	Br	CF_3	Me	Br	Br	CF_3	CF_2CHF_2	Me	Cl
Cl	Br	CF_3	Et	Br	Br	CF_3	CF_2CHF_2	Et	Cl
Cl	Br	CF_3	*i*-Pr	Br	Br	CF_3	CF_2CHF_2	*i*-Pr	Cl
Cl	Br	CF_3	*t*-Bu	Br	Br	CF_3	CF_2CHF_2	*t*-Bu	Cl
Cl	Br	CH_2CF_3	Me	Cl	Br	CF_3	CF_2CHF_2	Me	Br
Cl	Br	CH_2CF_3	Et	Cl	Br	CF_3	CF_2CHF_2	Et	Br
Cl	Br	CH_2CF_3	*i*-Pr	Cl	Br	CF_3	CF_2CHF_2	*i*-Pr	Br
Cl	Br	CH_2CF_3	*t*-Bu	Cl	Br	CF_3	CF_2CHF_2	*t*-Bu	Br
CH_3	H	CF_3	Me	Cl	Cl	H	CF_3	Me	Cl
CH_3	H	CF_3	Et	Cl	Cl	H	CF_3	Et	Cl
CH_3	H	CF_3	*i*-Pr	Cl	Cl	H	CF_3	*i*-Pr	Cl
CH_3	H	CF_3	*t*-Bu	Cl	Cl	H	CF_3	*t*-Bu	Cl
CH_3	H	CF_3	Me	Br	Cl	H	CF_3	Me	Br
CH_3	H	CF_3	Et	Br	Cl	H	CF_3	Et	Br
CH_3	H	CF_3	*i*-Pr	Br	Cl	H	CF_3	*i*-Pr	Br
CH_3	H	CF_3	*t*-Bu	Br	Cl	H	CF_3	*t*-Bu	Br
CH_3	H	CH_2CF_3	Me	Cl	Cl	H	CH_2CF_3	Me	Cl

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	H	CH_2CF_3	Et	Cl	Cl	H	CH_2CF_3	Et	Cl
CH_3	H	CH_2CF_3	*i*-Pr	Cl	Cl	H	CH_2CF_3	*i*-Pr	Cl
CH_3	H	CH_2CF_3	*t*-Bu	Cl	Cl	H	CH_2CF_3	*t*-Bu	Cl
CH_3	H	CH_2CF_3	Me	Br	Cl	H	CH_2CF_3	Me	Br
CH_3	H	CH_2CF_3	Et	Br	Cl	H	CH_2CF_3	Et	Br
CH_3	H	CH_2CF_3	*i*-Pr	Br	Cl	H	CH_2CF_3	*i*-Pr	Br
CH_3	H	CH_2CF_3	*t*-Bu	Br	Cl	H	CH_2CF_3	*t*-Bu	Br
CH_3	H	CF_2CHF_2	Me	Cl	Cl	H	CF_2CHF_2	Me	Cl
CH_3	H	CF_2CHF_2	Et	Cl	Cl	H	CF_2CHF_2	Et	Cl
CH_3	H	CF_2CHF_2	*i*-Pr	Cl	Cl	H	CF_2CHF_2	*i*-Pr	Cl
CH_3	H	CF_2CHF_2	*t*-Bu	Cl	Cl	H	CF_2CHF_2	*t*-Bu	Cl
CH_3	H	CF_2CHF_2	Me	Br	Cl	H	CF_2CHF_2	Me	Br
CH_3	H	CF_2CHF_2	Et	Br	Cl	H	CF_2CHF_2	Et	Br
CH_3	H	CF_2CHF_2	*i*-Pr	Br	Cl	H	CF_2CHF_2	*i*-Pr	Br
CH_3	H	CF_2CHF_2	*t*-Bu	Br	Cl	H	CF_2CHF_2	*t*-Bu	Br
CH_3	F	CHF_2	Me	Cl	CH_3	Cl	CHF_2	Me	Cl
CH_3	F	CHF_2	Et	Cl	CH_3	Cl	CHF_2	Et	Cl
CH_3	F	CHF_2	*i*-Pr	Cl	CH_3	Cl	CHF_2	*i*-Pr	Cl
CH_3	F	CHF_2	*t*-Bu	Cl	CH_3	Cl	CHF_2	*t*-Bu	Cl
CH_3	F	CHF_2	Me	Br	CH_3	Cl	CHF_2	Me	Br
CH_3	F	CHF_2	Et	Br	CH_3	Cl	CHF_2	Et	Br
CH_3	F	CHF_2	*i*-Pr	Br	CH_3	Cl	CHF_2	*i*-Pr	Br
CH_3	F	CHF_2	*t*-Bu	Br	CH_3	Cl	CHF_2	*t*-Bu	Br
Cl	F	CHF_2	Me	Cl	Cl	F	CHF_2	Me	Cl
Cl	F	CHF_2	Et	Cl	Cl	F	CHF_2	Et	Cl
Cl	F	CHF_2	*i*-Pr	Cl	Cl	F	CHF_2	*i*-Pr	Cl
Cl	F	CHF_2	*t*-Bu	Cl	Cl	F	CHF_2	*t*-Bu	Cl
Cl	F	CHF_2	Me	Br	Cl	F	CHF_2	Me	Br
Cl	F	CHF_2	Et	Br	Cl	F	CHF_2	Et	Br
Cl	F	CHF_2	*i*-Pr	Br	Cl	F	CHF_2	*i*-Pr	Br
Cl	F	CHF_2	*t*-Bu	Br	Cl	F	CHF_2	*t*-Bu	Br
CH_3	Br	CHF_2	Me	Cl	CH_3	I	CHF_2	Me	Cl
CH_3	Br	CHF_2	Et	Cl	CH_3	I	CHF_2	Et	Cl
CH_3	Br	CHF_2	*i*-Pr	Cl	CH_3	I	CHF_2	*i*-Pr	Cl
CH_3	Br	CHF_2	*t*-Bu	Cl	CH_3	I	CHF_2	*t*-Bu	Cl
CH_3	Br	CHF_2	Me	Br	CH_3	I	CHF_2	Me	Br
CH_3	Br	CHF_2	Et	Br	CH_3	I	CHF_2	Et	Br

R^{4a}	R^{4b}	R^9	R^3	R^6	R^{4a}	R^{4b}	R^9	R^3	R^6
CH_3	Br	CHF_2	*i*-Pr	Br	CH_3	I	CHF_2	*i*-Pr	Br
CH_3	Br	CHF_2	*t*-Bu	Br	CH_3	I	CHF_2	*t*-Bu	Br
Cl	Br	CHF_2	Me	Cl	Cl	I	CHF_2	Me	Cl
Cl	Br	CHF_2	Et	Cl	Cl	I	CHF_2	Et	Cl
Cl	Br	CHF_2	*i*-Pr	Cl	Cl	I	CHF_2	*i*-Pr	Cl
Cl	Br	CHF_2	*t*-Bu	Cl	Cl	I	CHF_2	*t*-Bu	Cl
Cl	Br	CHF_2	Me	Br	Cl	I	CHF_2	Me	Br
Cl	Br	CHF_2	Et	Br	Cl	I	CHF_2	Et	Br
Cl	Br	CHF_2	*i*-Pr	Br	Cl	I	CHF_2	*i*-Pr	Br
Cl	Br	CHF_2	*t*-Bu	Br	Cl	I	CHF_2	*t*-Bu	Br
CH_3	H	CHF_2	Me	Br	Cl	H	CHF_2	Me	Br
CH_3	H	CHF_2	Et	Br	Cl	H	CHF_2	Et	Br
CH_3	H	CHF_2	*i*-Pr	Br	Cl	H	CHF_2	*i*-Pr	Br
CH_3	H	CHF_2	*t*-Bu	Br	Cl	H	CHF_2	*t*-Bu	Br

Table 16



R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	3-Me	H	CF_3	F	Me	3-Cl	H	CF_3	F
Et	3-Me	5-Me	CHF_2	F	Et	3-Cl	5-Me	CHF_2	F
i-Pr	3-Me	H	CHF_2	F	*i*-Pr	3-Cl	H	CHF_2	F
t-Bu	3-Me	5-Cl	CH_2CF_3	F	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	F
Me	3-Me	H	CH_2CF_3	F	Me	3-Cl	H	CH_2CF_3	F
Et	3-Me	H	CF_2CHF_2	F	Et	3-Cl	H	CF_2CHF_2	F
i-Pr	3-Me	5-Br	CF_2CHF_2	F	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	F
t-Bu	3-Me	H	Et	F	*t*-Bu	3-Cl	H	Et	F
propargyl	3-Me	H	CF_3	F	propargyl	3-Cl	H	CF_3	F
c-propyl	3-Me	H	CHF_2	F	*c*-propyl	3-Cl	H	CHF_2	F
i-Pr	3-Me	5-Cl	CF_3	F	*i*-Pr	3-Cl	5-Cl	CF_3	F
t-Bu	3-Me	H	*n*-C_3F_7	F	t-Bu	3-Cl	H	*n*-C_3F_7	F

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	3-Me	5-Cl	*i*-C_3F_7	F	Me	3-Cl	5-Cl	*i*-C_3F_7	F
Et	3-Me	H	*i*-Pr	F	Et	3-Cl	H	*i*-Pr	F
i-Pr	3-Me	H	CF_3	F	*i*-Pr	3-Cl	H	CF_3	F
t-Bu	3-Me	H	C_2F_5	F	*t*-Bu	3-Cl	H	C_2F_5	F
propargyl	3-Me	H	C_2F_5	F	propargyl	3-Cl	H	C_2F_5	F
c-propyl	3-Me	H	CF_3	F	*c*-propyl	3-Cl	H	CF_3	F
i-Pr	3-Me	H	*n*-Pr	F	*i*-Pr	3-Cl	H	*n*-Pr	F
t-Bu	3-Me	5-Br	CH_2CH_2Cl	F	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	F
Me	3-Me	H	CF_3	Cl	Me	3-Cl	H	CF_3	Cl
Et	3-Me	5-Me	CHF_2	Cl	Et	3-Cl	5-Me	CHF_2	Cl
i-Pr	3-Me	H	CHF_2	Cl	*i*-Pr	3-Cl	H	CHF_2	Cl
t-Bu	3-Me	5-Cl	CH_2CF_3	Cl	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	Cl
Me	3-Me	H	CH_2CF_3	Cl	Me	3-Cl	H	CH_2CF_3	Cl
Et	3-Me	H	CF_2CHF_2	Cl	Et	3-Cl	H	CF_2CHF_2	Cl
i-Pr	3-Me	5-Br	CF_2CHF_2	Cl	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	Cl
t-Bu	3-Me	H	Et	Cl	*t*-Bu	3-Cl	H	Et	Cl
propargyl	3-Me	H	CF_3	Cl	propargyl	3-Cl	H	CF_3	Cl
c-propyl	3-Me	H	CHF_2	Cl	*c*-propyl	3-Cl	H	CHF_2	Cl
i-Pr	3-Me	5-Cl	CF_3	Cl	*i*-Pr	3-Cl	5-Cl	CF_3	Cl
t-Bu	3-Me	H	*n*-C_3F_7	Cl	t-Bu	3-Cl	H	*n*-C_3F_7	Cl
Me	3-Me	5-Cl	*i*-C_3F_7	Cl	Me	3-Cl	5-Cl	*i*-C_3F_7	Cl
Et	3-Me	H	*i*-Pr	Cl	Et	3-Cl	H	*i*-Pr	Cl
i-Pr	3-Me	H	CF_3	Cl	*i*-Pr	3-Cl	H	CF_3	Cl
t-Bu	3-Me	H	C_2F_5	Cl	*t*-Bu	3-Cl	H	C_2F_5	Cl
propargyl	3-Me	H	C_2F_5	Cl	propargyl	3-Cl	H	C_2F_5	Cl
c-propyl	3-Me	H	CF_3	Cl	*c*-propyl	3-Cl	H	CF_3	Cl
i-Pr	3-Me	H	*n*-Pr	Cl	*i*-Pr	3-Cl	H	*n*-Pr	Cl
t-Bu	3-Me	5-Br	CH_2CH_2Cl	Cl	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	Cl
Me	3-Me	H	CF_3	CF_3	Me	3-Cl	H	CF_3	CF_3
Et	3-Me	5-Me	CHF_2	CF_3	Et	3-Cl	5-Me	CHF_2	CF_3
i-Pr	3-Me	H	CHF_2	CF_3	*i*-Pr	3-Cl	H	CHF_2	CF_3
t-Bu	3-Me	5-Cl	CH_2CF_3	CF_3	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	CF_3
Me	3-Me	H	CH_2CF_3	CF_3	Me	3-Cl	H	CH_2CF_3	CF_3
Et	3-Me	H	CF_2CHF_2	CF_3	Et	3-Cl	H	CF_2CHF_2	CF_3
i-Pr	3-Me	5-Br	CF_2CHF_2	CF_3	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	CF_3
t-Bu	3-Me	H	Et	CF_3	*t*-Bu	3-Cl	H	Et	CF_3
propargyl	3-Me	H	CF_3	CF_3	propargyl	3-Cl	H	CF_3	CF_3

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
c-propyl	3-Me	H	CHF_2	CF_3	*c*-propyl	3-Cl	H	CHF_2	CF_3
i-Pr	3-Me	5-Cl	CF_3	CF_3	*i*-Pr	3-Cl	5-Cl	CF_3	CF_3
t-Bu	3-Me	H	*n*-C_3F_7	CF_3	t-Bu	3-Cl	H	*n*-C_3F_7	CF_3
Me	3-Me	5-Cl	*i*-C_3F_7	CF_3	Me	3-Cl	5-Cl	*i*-C_3F_7	CF_3
Et	3-Me	H	*i*-Pr	CF_3	Et	3-Cl	H	*i*-Pr	CF_3
i-Pr	3-Me	H	CF_3	CF_3	*i*-Pr	3-Cl	H	CF_3	CF_3
t-Bu	3-Me	H	C_2F_5	CF_3	*t*-Bu	3-Cl	H	C_2F_5	CF_3
propargyl	3-Me	H	C_2F_5	CF_3	propargyl	3-Cl	H	C_2F_5	CF_3
c-propyl	3-Me	H	CF_3	CF_3	*c*-propyl	3-Cl	H	CF_3	CF_3
i-Pr	3-Me	H	*n*-Pr	CF_3	*i*-Pr	3-Cl	H	*n*-Pr	CF_3
t-Bu	3-Me	5-Br	CH_2CH_2Cl	CF_3	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	CF_3
Me	3-Me	H	CF_3	Br	Me	3-Cl	H	CF_3	Br
Et	3-Me	5-Me	CHF_2	Br	Et	3-Cl	5-Me	CHF_2	Br
i-Pr	3-Me	H	CHF_2	Br	*i*-Pr	3-Cl	H	CHF_2	Br
t-Bu	3-Me	5-Cl	CH_2CF_3	Br	*t*-Bu	3-Cl	5-Cl	CH_2CF_3	Br
Me	3-Me	H	CH_2CF_3	Br	Me	3-Cl	H	CH_2CF_3	Br
Et	3-Me	H	CF_2CHF_2	Br	Et	3-Cl	H	CF_2CHF_2	Br
i-Pr	3-Me	5-Br	CF_2CHF_2	Br	*i*-Pr	3-Cl	5-Br	CF_2CHF_2	Br
t-Bu	3-Me	H	Et	Br	*t*-Bu	3-Cl	H	Et	Br
propargyl	3-Me	H	CF_3	Br	propargyl	3-Cl	H	CF_3	Br
c-propyl	3-Me	H	CHF_2	Br	*c*-propyl	3-Cl	H	CHF_2	Br
i-Pr	3-Me	5-Cl	CF_3	Br	*i*-Pr	3-Cl	5-Cl	CF_3	Br
t-Bu	3-Me	H	*n*-C_3F_7	Br	t-Bu	3-Cl	H	*n*-C_3F_7	Br
Me	3-Me	5-Cl	*i*-C_3F_7	Br	Me	3-Cl	5-Cl	*i*-C_3F_7	Br
Et	3-Me	H	*i*-Pr	Br	Et	3-Cl	H	*i*-Pr	Br
i-Pr	3-Me	H	CF_3	Br	*i*-Pr	3-Cl	H	CF_3	Br
t-Bu	3-Me	H	C_2F_5	Br	*t*-Bu	3-Cl	H	C_2F_5	Br
propargyl	3-Me	H	C_2F_5	Br	propargyl	3-Cl	H	C_2F_5	Br
c-propyl	3-Me	H	CF_3	Br	*c*-propyl	3-Cl	H	CF_3	Br
i-Pr	3-Me	H	*n*-Pr	Br	*i*-Pr	3-Cl	H	*n*-Pr	Br
t-Bu	3-Me	5-Br	CH_2CH_2Cl	Br	*t*-Bu	3-Cl	5-Br	CH_2CH_2Cl	Br
Me	6-Me	H	CHF_2	F	Me	6-Cl	H	CHF_2	F
Et	6-Me	H	CHF_2	F	Et	6-Cl	H	CHF_2	F
i-Pr	6-Me	H	CHF_2	F	*i*-Pr	6-Cl	H	CHF_2	F
t-Bu	6-Me	H	CHF_2	F	*t*-Bu	6-Cl	H	CHF_2	F
Me	6-Me	H	*n*-Pr	F	Me	6-Cl	H	*n*-Pr	F
Et	6-Me	H	*n*-Pr	F	Et	6-Cl	H	*n*-Pr	F

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
i-Pr	6-Me	H	*n*-Pr	F	*i*-Pr	6-Cl	H	*n*-Pr	F
t-Bu	6-Me	H	*n*-Pr	F	*t*-Bu	6-Cl	H	*n*-Pr	F
Me	6-Me	H	CF_3	F	Me	6-Cl	H	CF_3	F
Et	6-Me	H	CF_3	F	Et	6-Cl	H	CF_3	F
i-Pr	6-Me	H	CF_3	F	*i*-Pr	6-Cl	H	CF_3	F
t-Bu	6-Me	H	CF_3	F	*t*-Bu	6-Cl	H	CF_3	F
Me	6-Me	H	*i*-Pr	F	Me	6-Cl	H	*i*-Pr	F
Et	6-Me	H	*i*-Pr	F	Et	6-Cl	H	*i*-Pr	F
i-Pr	6-Me	H	*i*-Pr	F	*i*-Pr	6-Cl	H	*i*-Pr	F
t-Bu	6-Me	H	*i*-Pr	F	*t*-Bu	6-Cl	H	*i*-Pr	F
Me	6-Me	H	C_2F_5	F	Me	6-Cl	H	C_2F_5	F
Et	6-Me	H	C_2F_5	F	Et	6-Cl	H	C_2F_5	F
i-Pr	6-Me	H	C_2F_5	F	*i*-Pr	6-Cl	H	C_2F_5	F
t-Bu	6-Me	H	C_2F_5	F	*t*-Bu	6-Cl	H	C_2F_5	F
Me	6-Me	H	*n*-C_3F_7	F	Me	6-Cl	H	*n*-C_3F_7	F
Et	6-Me	H	*n*-C_3F_7	F	Et	6-Cl	H	*n*-C_3F_7	F
i-Pr	6-Me	H	*n*-C_3F_7	F	*i*-Pr	6-Cl	H	*n*-C_3F_7	F
t-Bu	6-Me	H	*n*-C_3F_7	F	*t*-Bu	6-Cl	H	*n*-C_3F_7	F
Me	6-Me	H	*i*-C_3F_7	F	Me	6-Cl	H	*i*-C_3F_7	F
Et	6-Me	H	*i*-C_3F_7	F	Et	6-Cl	H	*i*-C_3F_7	F
i-Pr	6-Me	H	*i*-C_3F_7	F	*i*-Pr	6-Cl	H	*i*-C_3F_7	F
t-Bu	6-Me	H	*i*-C_3F_7	F	*t*-Bu	6-Cl	H	*i*-C_3F_7	F
Me	6-Me	H	Et	F	Me	6-Cl	H	Et	F
Et	6-Me	H	Et	F	Et	6-Cl	H	Et	F
i-Pr	6-Me	H	Et	F	*i*-Pr	6-Cl	H	Et	F
t-Bu	6-Me	H	Et	F	*t*-Bu	6-Cl	H	Et	F
Me	6-Me	H	CHF_2	Cl	Me	6-Cl	H	CHF_2	Cl
Et	6-Me	H	CHF_2	Cl	Et	6-Cl	H	CHF_2	Cl
i-Pr	6-Me	H	CHF_2	Cl	*i*-Pr	6-Cl	H	CHF_2	Cl
t-Bu	6-Me	H	CHF_2	Cl	*t*-Bu	6-Cl	H	CHF_2	Cl
Me	6-Me	H	*n*-Pr	Cl	Me	6-Cl	H	*n*-Pr	Cl
Et	6-Me	H	*n*-Pr	Cl	Et	6-Cl	H	*n*-Pr	Cl
i-Pr	6-Me	H	*n*-Pr	Cl	*i*-Pr	6-Cl	H	*n*-Pr	Cl
t-Bu	6-Me	H	*n*-Pr	Cl	*t*-Bu	6-Cl	H	*n*-Pr	Cl
Me	6-Me	H	CF_3	Cl	Me	6-Cl	H	CF_3	Cl
Et	6-Me	H	CF_3	Cl	Et	6-Cl	H	CF_3	Cl
i-Pr	6-Me	H	CF_3	Cl	*i*-Pr	6-Cl	H	CF_3	Cl

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
t-Bu	6-Me	H	CF_3	Cl	*t*-Bu	6-Cl	H	CF_3	Cl
Me	6-Me	H	*i*-Pr	Cl	Me	6-Cl	H	*i*-Pr	Cl
Et	6-Me	H	*i*-Pr	Cl	Et	6-Cl	H	*i*-Pr	Cl
i-Pr	6-Me	H	*i*-Pr	Cl	*i*-Pr	6-Cl	H	*i*-Pr	Cl
t-Bu	6-Me	H	*i*-Pr	Cl	*t*-Bu	6-Cl	H	*i*-Pr	Cl
Me	6-Me	H	C_2F_5	Cl	Me	6-Cl	H	C_2F_5	Cl
Et	6-Me	H	C_2F_5	Cl	Et	6-Cl	H	C_2F_5	Cl
i-Pr	6-Me	H	C_2F_5	Cl	*i*-Pr	6-Cl	H	C_2F_5	Cl
t-Bu	6-Me	H	C_2F_5	Cl	*t*-Bu	6-Cl	H	C_2F_5	Cl
Me	6-Me	H	*n*-C_3F_7	Cl	Me	6-Cl	H	*n*-C_3F_7	Cl
Et	6-Me	H	*n*-C_3F_7	Cl	Et	6-Cl	H	*n*-C_3F_7	Cl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl
Me	6-Me	H	*i*-C_3F_7	Cl	Me	6-Cl	H	*i*-C_3F_7	Cl
Et	6-Me	H	*i*-C_3F_7	Cl	Et	6-Cl	H	*i*-C_3F_7	Cl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl
Me	6-Me	H	Et	Cl	Me	6-Cl	H	Et	Cl
Et	6-Me	H	Et	Cl	Et	6-Cl	H	Et	Cl
i-Pr	6-Me	H	Et	Cl	*i*-Pr	6-Cl	H	Et	Cl
t-Bu	6-Me	H	Et	Cl	*t*-Bu	6-Cl	H	Et	Cl
Me	6-Me	H	CHF_2	Br	Me	6-Cl	H	CHF_2	Br
Et	6-Me	H	CHF_2	Br	Et	6-Cl	H	CHF_2	Br
i-Pr	6-Me	H	CHF_2	Br	*i*-Pr	6-Cl	H	CHF_2	Br
t-Bu	6-Me	H	CHF_2	Br	*t*-Bu	6-Cl	H	CHF_2	Br
Me	6-Me	H	*n*-Pr	Br	Me	6-Cl	H	*n*-Pr	Br
Et	6-Me	H	*n*-Pr	Br	Et	6-Cl	H	*n*-Pr	Br
i-Pr	6-Me	H	*n*-Pr	Br	*i*-Pr	6-Cl	H	*n*-Pr	Br
t-Bu	6-Me	H	*n*-Pr	Br	*t*-Bu	6-Cl	H	*n*-Pr	Br
Me	6-Me	H	CF_3	Br	Me	6-Cl	H	CF_3	Br
Et	6-Me	H	CF_3	Br	Et	6-Cl	H	CF_3	Br
i-Pr	6-Me	H	CF_3	Br	*i*-Pr	6-Cl	H	CF_3	Br
t-Bu	6-Me	H	CF_3	Br	*t*-Bu	6-Cl	H	CF_3	Br
Me	6-Me	H	*i*-Pr	Br	Me	6-Cl	H	*i*-Pr	Br
Et	6-Me	H	*i*-Pr	Br	Et	6-Cl	H	*i*-Pr	Br
i-Pr	6-Me	H	*i*-Pr	Br	*i*-Pr	6-Cl	H	*i*-Pr	Br
t-Bu	6-Me	H	*i*-Pr	Br	*t*-Bu	6-Cl	H	*i*-Pr	Br

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	6-Me	H	C_2F_5	Br	Me	6-Cl	H	C_2F_5	Br
Et	6-Me	H	C_2F_5	Br	Et	6-Cl	H	C_2F_5	Br
i-Pr	6-Me	H	C_2F_5	Br	*i*-Pr	6-Cl	H	C_2F_5	Br
t-Bu	6-Me	H	C_2F_5	Br	*t*-Bu	6-Cl	H	C_2F_5	Br
Me	6-Me	H	*n*-C_3F_7	Br	Me	6-Cl	H	*n*-C_3F_7	Br
Et	6-Me	H	*n*-C_3F_7	Br	Et	6-Cl	H	*n*-C_3F_7	Br
i-Pr	6-Me	H	*n*-C_3F_7	Br	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br
t-Bu	6-Me	H	*n*-C_3F_7	Br	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br
Me	6-Me	H	*i*-C_3F_7	Br	Me	6-Cl	H	*i*-C_3F_7	Br
Et	6-Me	H	*i*-C_3F_7	Br	Et	6-Cl	H	*i*-C_3F_7	Br
i-Pr	6-Me	H	*i*-C_3F_7	Br	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br
t-Bu	6-Me	H	*i*-C_3F_7	Br	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br
Me	6-Me	H	Et	Br	Me	6-Cl	H	Et	Br
Et	6-Me	H	Et	Br	Et	6-Cl	H	Et	Br
i-Pr	6-Me	H	Et	Br	*i*-Pr	6-Cl	H	Et	Br
t-Bu	6-Me	H	Et	Br	*t*-Bu	6-Cl	H	Et	Br
Me	6-Me	H	CHF_2	CF_3	Me	6-Cl	H	CHF_2	CF_3
Et	6-Me	H	CHF_2	CF_3	Et	6-Cl	H	CHF_2	CF_3
i-Pr	6-Me	H	CHF_2	CF_3	*i*-Pr	6-Cl	H	CHF_2	CF_3
t-Bu	6-Me	H	CHF_2	CF_3	*t*-Bu	6-Cl	H	CHF_2	CF_3
Me	6-Me	H	*n*-Pr	CF_3	Me	6-Cl	H	*n*-Pr	CF_3
Et	6-Me	H	*n*-Pr	CF_3	Et	6-Cl	H	*n*-Pr	CF_3
i-Pr	6-Me	H	*n*-Pr	CF_3	*i*-Pr	6-Cl	H	*n*-Pr	CF_3
t-Bu	6-Me	H	*n*-Pr	CF_3	*t*-Bu	6-Cl	H	*n*-Pr	CF_3
Me	6-Me	H	CF_3	CF_3	Me	6-Cl	H	CF_3	CF_3
Et	6-Me	H	CF_3	CF_3	Et	6-Cl	H	CF_3	CF_3
i-Pr	6-Me	H	CF_3	CF_3	*i*-Pr	6-Cl	H	CF_3	CF_3
t-Bu	6-Me	H	CF_3	CF_3	*t*-Bu	6-Cl	H	CF_3	CF_3
Me	6-Me	H	*i*-Pr	CF_3	Me	6-Cl	H	*i*-Pr	CF_3
Et	6-Me	H	*i*-Pr	CF_3	Et	6-Cl	H	*i*-Pr	CF_3
i-Pr	6-Me	H	*i*-Pr	CF_3	*i*-Pr	6-Cl	H	*i*-Pr	CF_3
t-Bu	6-Me	H	*i*-Pr	CF_3	*t*-Bu	6-Cl	H	*i*-Pr	CF_3
Me	6-Me	H	C_2F_5	CF_3	Me	6-Cl	H	C_2F_5	CF_3
Et	6-Me	H	C_2F_5	CF_3	Et	6-Cl	H	C_2F_5	CF_3
i-Pr	6-Me	H	C_2F_5	CF_3	*i*-Pr	6-Cl	H	C_2F_5	CF_3
t-Bu	6-Me	H	C_2F_5	CF_3	*t*-Bu	6-Cl	H	C_2F_5	CF_3
Me	6-Me	H	*n*-C_3F_7	CF_3	Me	6-Cl	H	*n*-C_3F_7	CF_3

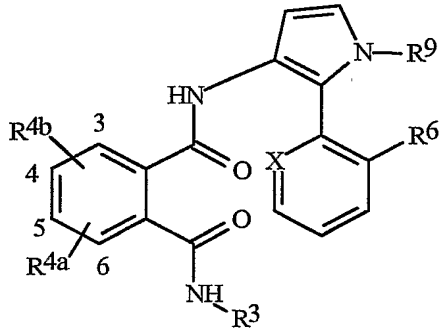
R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Et	6-Me	H	n-C_3F_7	CF_3	Et	6-Cl	H	n-C_3F_7	CF_3
i-Pr	6-Me	H	n-C_3F_7	CF_3	i-Pr	6-Cl	H	n-C_3F_7	CF_3
t-Bu	6-Me	H	n-C_3F_7	CF_3	t-Bu	6-Cl	H	n-C_3F_7	CF_3
Me	6-Me	H	i-C_3F_7	CF_3	Me	6-Cl	H	i-C_3F_7	CF_3
Et	6-Me	H	i-C_3F_7	CF_3	Et	6-Cl	H	i-C_3F_7	CF_3
i-Pr	6-Me	H	i-C_3F_7	CF_3	i-Pr	6-Cl	H	i-C_3F_7	CF_3
t-Bu	6-Me	H	i-C_3F_7	CF_3	t-Bu	6-Cl	H	i-C_3F_7	CF_3
Me	6-Me	H	Et	CF_3	Me	6-Cl	H	Et	CF_3
Et	6-Me	H	Et	CF_3	Et	6-Cl	H	Et	CF_3
i-Pr	6-Me	H	Et	CF_3	i-Pr	6-Cl	H	Et	CF_3
t-Bu	6-Me	H	Et	CF_3	t-Bu	6-Cl	H	Et	CF_3
Me	6-Me	Cl	CHF_2	F	Me	6-Cl	Cl	CHF_2	F
Et	6-Me	Cl	CHF_2	F	Et	6-Cl	Cl	CHF_2	F
i-Pr	6-Me	Cl	CHF_2	F	i-Pr	6-Cl	Cl	CHF_2	F
t-Bu	6-Me	Cl	CHF_2	F	t-Bu	6-Cl	Cl	CHF_2	F
Me	6-Me	Cl	n-Pr	F	Me	6-Cl	Cl	n-Pr	F
Et	6-Me	Cl	n-Pr	F	Et	6-Cl	Cl	n-Pr	F
i-Pr	6-Me	Cl	n-Pr	F	i-Pr	6-Cl	Cl	n-Pr	F
t-Bu	6-Me	Cl	n-Pr	F	t-Bu	6-Cl	Cl	n-Pr	F
Me	6-Me	Cl	CF_3	F	Me	6-Cl	Cl	CF_3	F
Et	6-Me	Cl	CF_3	F	Et	6-Cl	Cl	CF_3	F
i-Pr	6-Me	Cl	CF_3	F	i-Pr	6-Cl	Cl	CF_3	F
t-Bu	6-Me	Cl	CF_3	F	t-Bu	6-Cl	Cl	CF_3	F
Me	6-Me	Cl	i-Pr	F	Me	6-Cl	Cl	i-Pr	F
Et	6-Me	Cl	i-Pr	F	Et	6-Cl	Cl	i-Pr	F
i-Pr	6-Me	Cl	i-Pr	F	i-Pr	6-Cl	Cl	i-Pr	F
t-Bu	6-Me	Cl	i-Pr	F	t-Bu	6-Cl	Cl	i-Pr	F
Me	6-Me	Cl	C_2F_5	F	Me	6-Cl	Cl	C_2F_5	F
Et	6-Me	Cl	C_2F_5	F	Et	6-Cl	Cl	C_2F_5	F
i-Pr	6-Me	Cl	C_2F_5	F	i-Pr	6-Cl	Cl	C_2F_5	F
t-Bu	6-Me	Cl	C_2F_5	F	t-Bu	6-Cl	Cl	C_2F_5	F
Me	6-Me	Cl	n-C_3F_7	F	Me	6-Cl	Cl	n-C_3F_7	F
Et	6-Me	Cl	n-C_3F_7	F	Et	6-Cl	Cl	n-C_3F_7	F
i-Pr	6-Me	Cl	n-C_3F_7	F	i-Pr	6-Cl	Cl	n-C_3F_7	F
t-Bu	6-Me	Cl	n-C_3F_7	F	t-Bu	6-Cl	Cl	n-C_3F_7	F
Me	6-Me	Cl	i-C_3F_7	F	Me	6-Cl	Cl	i-C_3F_7	F
Et	6-Me	Cl	i-C_3F_7	F	Et	6-Cl	Cl	i-C_3F_7	F

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
i-Pr	6-Me	Cl	*i*-C_3F_7	F	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F
t-Bu	6-Me	Cl	*i*-C_3F_7	F	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F
Me	6-Me	Cl	Et	F	Me	6-Cl	Cl	Et	F
Et	6-Me	Cl	Et	F	Et	6-Cl	Cl	Et	F
i-Pr	6-Me	Cl	Et	F	*i*-Pr	6-Cl	Cl	Et	F
t-Bu	6-Me	Cl	Et	F	*t*-Bu	6-Cl	Cl	Et	F
Me	6-Me	Cl	CHF_2	Cl	Me	6-Cl	Cl	CHF_2	Cl
Et	6-Me	Cl	CHF_2	Cl	Et	6-Cl	Cl	CHF_2	Cl
i-Pr	6-Me	Cl	CHF_2	Cl	*i*-Pr	6-Cl	Cl	CHF_2	Cl
t-Bu	6-Me	Cl	CHF_2	Cl	*t*-Bu	6-Cl	Cl	CHF_2	Cl
Me	6-Me	Cl	*n*-Pr	Cl	Me	6-Cl	Cl	*n*-Pr	Cl
Et	6-Me	Cl	*n*-Pr	Cl	Et	6-Cl	Cl	*n*-Pr	Cl
i-Pr	6-Me	Cl	*n*-Pr	Cl	*i*-Pr	6-Cl	Cl	*n*-Pr	Cl
t-Bu	6-Me	Cl	*n*-Pr	Cl	*t*-Bu	6-Cl	Cl	*n*-Pr	Cl
Me	6-Me	Cl	CF_3	Cl	Me	6-Cl	Cl	CF_3	Cl
Et	6-Me	Cl	CF_3	Cl	Et	6-Cl	Cl	CF_3	Cl
i-Pr	6-Me	Cl	CF_3	Cl	*i*-Pr	6-Cl	Cl	CF_3	Cl
t-Bu	6-Me	Cl	CF_3	Cl	*t*-Bu	6-Cl	Cl	CF_3	Cl
Me	6-Me	Cl	*i*-Pr	Cl	Me	6-Cl	Cl	*i*-Pr	Cl
Et	6-Me	Cl	*i*-Pr	Cl	Et	6-Cl	Cl	*i*-Pr	Cl
i-Pr	6-Me	Cl	*i*-Pr	Cl	*i*-Pr	6-Cl	Cl	*i*-Pr	Cl
t-Bu	6-Me	Cl	*i*-Pr	Cl	*t*-Bu	6-Cl	Cl	*i*-Pr	Cl
Me	6-Me	Cl	C_2F_5	Cl	Me	6-Cl	Cl	C_2F_5	Cl
Et	6-Me	Cl	C_2F_5	Cl	Et	6-Cl	Cl	C_2F_5	Cl
i-Pr	6-Me	Cl	C_2F_5	Cl	*i*-Pr	6-Cl	Cl	C_2F_5	Cl
t-Bu	6-Me	Cl	C_2F_5	Cl	*t*-Bu	6-Cl	Cl	C_2F_5	Cl
Me	6-Me	Cl	*n*-C_3F_7	Cl	Me	6-Cl	Cl	*n*-C_3F_7	Cl
Et	6-Me	Cl	*n*-C_3F_7	Cl	Et	6-Cl	Cl	*n*-C_3F_7	Cl
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl
Me	6-Me	Cl	*i*-C_3F_7	Cl	Me	6-Cl	Cl	*i*-C_3F_7	Cl
Et	6-Me	Cl	*i*-C_3F_7	Cl	Et	6-Cl	Cl	*i*-C_3F_7	Cl
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl
Me	6-Me	Cl	Et	Cl	Me	6-Cl	Cl	Et	Cl
Et	6-Me	Cl	Et	Cl	Et	6-Cl	Cl	Et	Cl
i-Pr	6-Me	Cl	Et	Cl	*i*-Pr	6-Cl	Cl	Et	Cl

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
t-Bu	6-Me	Cl	Et	Cl	*t*-Bu	6-Cl	Cl	Et	Cl
Me	6-Me	Cl	CHF_2	Br	Me	6-Cl	Cl	CHF_2	Br
Et	6-Me	Cl	CHF_2	Br	Et	6-Cl	Cl	CHF_2	Br
i-Pr	6-Me	Cl	CHF_2	Br	*i*-Pr	6-Cl	Cl	CHF_2	Br
t-Bu	6-Me	Cl	CHF_2	Br	*t*-Bu	6-Cl	Cl	CHF_2	Br
Me	6-Me	Cl	*n*-Pr	Br	Me	6-Cl	Cl	*n*-Pr	Br
Et	6-Me	Cl	*n*-Pr	Br	Et	6-Cl	Cl	*n*-Pr	Br
i-Pr	6-Me	Cl	*n*-Pr	Br	*i*-Pr	6-Cl	Cl	*n*-Pr	Br
t-Bu	6-Me	Cl	*n*-Pr	Br	*t*-Bu	6-Cl	Cl	*n*-Pr	Br
Me	6-Me	Cl	CF_3	Br	Me	6-Cl	Cl	CF_3	Br
Et	6-Me	Cl	CF_3	Br	Et	6-Cl	Cl	CF_3	Br
i-Pr	6-Me	Cl	CF_3	Br	*i*-Pr	6-Cl	Cl	CF_3	Br
t-Bu	6-Me	Cl	CF_3	Br	*t*-Bu	6-Cl	Cl	CF_3	Br
Me	6-Me	Cl	*i*-Pr	Br	Me	6-Cl	Cl	*i*-Pr	Br
Et	6-Me	Cl	*i*-Pr	Br	Et	6-Cl	Cl	*i*-Pr	Br
i-Pr	6-Me	Cl	*i*-Pr	Br	*i*-Pr	6-Cl	Cl	*i*-Pr	Br
t-Bu	6-Me	Cl	*i*-Pr	Br	*t*-Bu	6-Cl	Cl	*i*-Pr	Br
Me	6-Me	Cl	C_2F_5	Br	Me	6-Cl	Cl	C_2F_5	Br
Et	6-Me	Cl	C_2F_5	Br	Et	6-Cl	Cl	C_2F_5	Br
i-Pr	6-Me	Cl	C_2F_5	Br	*i*-Pr	6-Cl	Cl	C_2F_5	Br
t-Bu	6-Me	Cl	C_2F_5	Br	*t*-Bu	6-Cl	Cl	C_2F_5	Br
Me	6-Me	Cl	*n*-C_3F_7	Br	Me	6-Cl	Cl	*n*-C_3F_7	Br
Et	6-Me	Cl	*n*-C_3F_7	Br	Et	6-Cl	Cl	*n*-C_3F_7	Br
i-Pr	6-Me	Cl	*n*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Br
t-Bu	6-Me	Cl	*n*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Br
Me	6-Me	Cl	*i*-C_3F_7	Br	Me	6-Cl	Cl	*i*-C_3F_7	Br
Et	6-Me	Cl	*i*-C_3F_7	Br	Et	6-Cl	Cl	*i*-C_3F_7	Br
i-Pr	6-Me	Cl	*i*-C_3F_7	Br	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Br
t-Bu	6-Me	Cl	*i*-C_3F_7	Br	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Br
Me	6-Me	Cl	Et	Br	Me	6-Cl	Cl	Et	Br
Et	6-Me	Cl	Et	Br	Et	6-Cl	Cl	Et	Br
i-Pr	6-Me	Cl	Et	Br	*i*-Pr	6-Cl	Cl	Et	Br
t-Bu	6-Me	Cl	Et	Br	*t*-Bu	6-Cl	Cl	Et	Br
Me	6-Me	Cl	CHF_2	CF_3	Me	6-Cl	Cl	CHF_2	CF_3
Et	6-Me	Cl	CHF_2	CF_3	Et	6-Cl	Cl	CHF_2	CF_3
i-Pr	6-Me	Cl	CHF_2	CF_3	*i*-Pr	6-Cl	Cl	CHF_2	CF_3
t-Bu	6-Me	Cl	CHF_2	CF_3	*t*-Bu	6-Cl	Cl	CHF_2	CF_3

R^3	R^{4a}	R^{4b}	R^9	R^6	R^3	R^{4a}	R^{4b}	R^9	R^6
Me	6-Me	Cl	*n*-Pr	CF_3	Me	6-Cl	Cl	*n*-Pr	CF_3
Et	6-Me	Cl	*n*-Pr	CF_3	Et	6-Cl	Cl	*n*-Pr	CF_3
i-Pr	6-Me	Cl	*n*-Pr	CF_3	*i*-Pr	6-Cl	Cl	*n*-Pr	CF_3
t-Bu	6-Me	Cl	*n*-Pr	CF_3	*t*-Bu	6-Cl	Cl	*n*-Pr	CF_3
Me	6-Me	Cl	CF_3	CF_3	Me	6-Cl	Cl	CF_3	CF_3
Et	6-Me	Cl	CF_3	CF_3	Et	6-Cl	Cl	CF_3	CF_3
i-Pr	6-Me	Cl	CF_3	CF_3	*i*-Pr	6-Cl	Cl	CF_3	CF_3
t-Bu	6-Me	Cl	CF_3	CF_3	*t*-Bu	6-Cl	Cl	CF_3	CF_3
Me	6-Me	Cl	*i*-Pr	CF_3	Me	6-Cl	Cl	*i*-Pr	CF_3
Et	6-Me	Cl	*i*-Pr	CF_3	Et	6-Cl	Cl	*i*-Pr	CF_3
i-Pr	6-Me	Cl	*i*-Pr	CF_3	*i*-Pr	6-Cl	Cl	*i*-Pr	CF_3
t-Bu	6-Me	Cl	*i*-Pr	CF_3	*t*-Bu	6-Cl	Cl	*i*-Pr	CF_3
Me	6-Me	Cl	C_2F_5	CF_3	Me	6-Cl	Cl	C_2F_5	CF_3
Et	6-Me	Cl	C_2F_5	CF_3	Et	6-Cl	Cl	C_2F_5	CF_3
i-Pr	6-Me	Cl	C_2F_5	CF_3	*i*-Pr	6-Cl	Cl	C_2F_5	CF_3
t-Bu	6-Me	Cl	C_2F_5	CF_3	*t*-Bu	6-Cl	Cl	C_2F_5	CF_3
Me	6-Me	Cl	*n*-C_3F_7	CF_3	Me	6-Cl	Cl	*n*-C_3F_7	CF_3
Et	6-Me	Cl	*n*-C_3F_7	CF_3	Et	6-Cl	Cl	*n*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*n*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*n*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	CF_3
Me	6-Me	Cl	*i*-C_3F_7	CF_3	Me	6-Cl	Cl	*i*-C_3F_7	CF_3
Et	6-Me	Cl	*i*-C_3F_7	CF_3	Et	6-Cl	Cl	*i*-C_3F_7	CF_3
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3
Me	6-Me	Cl	Et	CF_3	Me	6-Cl	Cl	Et	CF_3
Et	6-Me	Cl	Et	CF_3	Et	6-Cl	Cl	Et	CF_3
i-Pr	6-Me	Cl	Et	CF_3	*i*-Pr	6-Cl	Cl	Et	CF_3
t-Bu	6-Me	Cl	Et	CF_3	*t*-Bu	6-Cl	Cl	Et	CF_3

Table 17



R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Me	6-Me	H	CHF_2	F	CH	Me	6-Cl	H	CHF_2	F	CH
Et	6-Me	H	CHF_2	F	CH	Et	6-Cl	H	CHF_2	F	CH
i-Pr	6-Me	H	CHF_2	F	CH	*i*-Pr	6-Cl	H	CHF_2	F	CH
t-Bu	6-Me	H	CHF_2	F	CH	*t*-Bu	6-Cl	H	CHF_2	F	CH
Me	6-Me	H	*n*-Pr	F	CH	Me	6-Cl	H	*n*-Pr	F	CH
Et	6-Me	H	*n*-Pr	F	CH	Et	6-Cl	H	*n*-Pr	F	CH
i-Pr	6-Me	H	*n*-Pr	F	CH	*i*-Pr	6-Cl	H	*n*-Pr	F	CH
t-Bu	6-Me	H	*n*-Pr	F	CH	*t*-Bu	6-Cl	H	*n*-Pr	F	CH
Me	6-Me	H	CF_3	F	CH	Me	6-Cl	H	CF_3	F	CH
Et	6-Me	H	CF_3	F	CH	Et	6-Cl	H	CF_3	F	CH
i-Pr	6-Me	H	CF_3	F	CH	*i*-Pr	6-Cl	H	CF_3	F	CH
t-Bu	6-Me	H	CF_3	F	CH	*t*-Bu	6-Cl	H	CF_3	F	CH
Me	6-Me	H	*i*-Pr	F	CH	Me	6-Cl	H	*i*-Pr	F	CH
Et	6-Me	H	*i*-Pr	F	CH	Et	6-Cl	H	*i*-Pr	F	CH
i-Pr	6-Me	H	*i*-Pr	F	CH	*i*-Pr	6-Cl	H	*i*-Pr	F	CH
t-Bu	6-Me	H	*i*-Pr	F	CH	*t*-Bu	6-Cl	H	*i*-Pr	F	CH
Me	6-Me	H	C_2F_5	F	CH	Me	6-Cl	H	C_2F_5	F	CH
Et	6-Me	H	C_2F_5	F	CH	Et	6-Cl	H	C_2F_5	F	CH
i-Pr	6-Me	H	C_2F_5	F	CH	*i*-Pr	6-Cl	H	C_2F_5	F	CH
t-Bu	6-Me	H	C_2F_5	F	CH	*t*-Bu	6-Cl	H	C_2F_5	F	CH
Me	6-Me	H	*n*-C_3F_7	F	CH	Me	6-Cl	H	*n*-C_3F_7	F	CH
Et	6-Me	H	*n*-C_3F_7	F	CH	Et	6-Cl	H	*n*-C_3F_7	F	CH
i-Pr	6-Me	H	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CH
t-Bu	6-Me	H	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CH
Me	6-Me	H	*i*-C_3F_7	F	CH	Me	6-Cl	H	*i*-C_3F_7	F	CH
Et	6-Me	H	*i*-C_3F_7	F	CH	Et	6-Cl	H	*i*-C_3F_7	F	CH
i-Pr	6-Me	H	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CH
t-Bu	6-Me	H	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Me	6-Me	H	Et	F	CH	Me	6-Cl	H	Et	F	CH
Et	6-Me	H	Et	F	CH	Et	6-Cl	H	Et	F	CH
i-Pr	6-Me	H	Et	F	CH	*i*-Pr	6-Cl	H	Et	F	CH
t-Bu	6-Me	H	Et	F	CH	*t*-Bu	6-Cl	H	Et	F	CH
Me	6-Me	H	CHF_2	Cl	CH	Me	6-Cl	H	CHF_2	Cl	CH
Et	6-Me	H	CHF_2	Cl	CH	Et	6-Cl	H	CHF_2	Cl	CH
i-Pr	6-Me	H	CHF_2	Cl	CH	*i*-Pr	6-Cl	H	CHF_2	Cl	CH
t-Bu	6-Me	H	CHF_2	Cl	CH	*t*-Bu	6-Cl	H	CHF_2	Cl	CH
Me	6-Me	H	*n*-Pr	Cl	CH	Me	6-Cl	H	*n*-Pr	Cl	CH
Et	6-Me	H	*n*-Pr	Cl	CH	Et	6-Cl	H	*n*-Pr	Cl	CH
i-Pr	6-Me	H	*n*-Pr	Cl	CH	*i*-Pr	6-Cl	H	*n*-Pr	Cl	CH
t-Bu	6-Me	H	*n*-Pr	Cl	CH	*t*-Bu	6-Cl	H	*n*-Pr	Cl	CH
Me	6-Me	H	CF_3	Cl	CH	Me	6-Cl	H	CF_3	Cl	CH
Et	6-Me	H	CF_3	Cl	CH	Et	6-Cl	H	CF_3	Cl	CH
i-Pr	6-Me	H	CF_3	Cl	CH	*i*-Pr	6-Cl	H	CF_3	Cl	CH
t-Bu	6-Me	H	CF_3	Cl	CH	*t*-Bu	6-Cl	H	CF_3	Cl	CH
Me	6-Me	H	*i*-Pr	Cl	CH	Me	6-Cl	H	*i*-Pr	Cl	CH
Et	6-Me	H	*i*-Pr	Cl	CH	Et	6-Cl	H	*i*-Pr	Cl	CH
i-Pr	6-Me	H	*i*-Pr	Cl	CH	*i*-Pr	6-Cl	H	*i*-Pr	Cl	CH
t-Bu	6-Me	H	*i*-Pr	Cl	CH	*t*-Bu	6-Cl	H	*i*-Pr	Cl	CH
Me	6-Me	H	C_2F_5	Cl	CH	Me	6-Cl	H	C_2F_5	Cl	CH
Et	6-Me	H	C_2F_5	Cl	CH	Et	6-Cl	H	C_2F_5	Cl	CH
i-Pr	6-Me	H	C_2F_5	Cl	CH	*i*-Pr	6-Cl	H	C_2F_5	Cl	CH
t-Bu	6-Me	H	C_2F_5	Cl	CH	*t*-Bu	6-Cl	H	C_2F_5	Cl	CH
Me	6-Me	H	*n*-C_3F_7	Cl	CH	Me	6-Cl	H	*n*-C_3F_7	Cl	CH
Et	6-Me	H	*n*-C_3F_7	Cl	CH	Et	6-Cl	H	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CH
Me	6-Me	H	*i*-C_3F_7	Cl	CH	Me	6-Cl	H	*i*-C_3F_7	Cl	CH
Et	6-Me	H	*i*-C_3F_7	Cl	CH	Et	6-Cl	H	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CH
Me	6-Me	H	Et	Cl	CH	Me	6-Cl	H	Et	Cl	CH
Et	6-Me	H	Et	Cl	CH	Et	6-Cl	H	Et	Cl	CH
i-Pr	6-Me	H	Et	Cl	CH	*i*-Pr	6-Cl	H	Et	Cl	CH
t-Bu	6-Me	H	Et	Cl	CH	*t*-Bu	6-Cl	H	Et	Cl	CH
Me	6-Me	H	CHF_2	Br	CH	Me	6-Cl	H	CHF_2	Br	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Et	6-Me	H	CHF_2	Br	CH	Et	6-Cl	H	CHF_2	Br	CH
i-Pr	6-Me	H	CHF_2	Br	CH	*i*-Pr	6-Cl	H	CHF_2	Br	CH
t-Bu	6-Me	H	CHF_2	Br	CH	*t*-Bu	6-Cl	H	CHF_2	Br	CH
Me	6-Me	H	*n*-Pr	Br	CH	Me	6-Cl	H	*n*-Pr	Br	CH
Et	6-Me	H	*n*-Pr	Br	CH	Et	6-Cl	H	*n*-Pr	Br	CH
i-Pr	6-Me	H	*n*-Pr	Br	CH	*i*-Pr	6-Cl	H	*n*-Pr	Br	CH
t-Bu	6-Me	H	*n*-Pr	Br	CH	*t*-Bu	6-Cl	H	*n*-Pr	Br	CH
Me	6-Me	H	CF_3	Br	CH	Me	6-Cl	H	CF_3	Br	CH
Et	6-Me	H	CF_3	Br	CH	Et	6-Cl	H	CF_3	Br	CH
i-Pr	6-Me	H	CF_3	Br	CH	*i*-Pr	6-Cl	H	CF_3	Br	CH
t-Bu	6-Me	H	CF_3	Br	CH	*t*-Bu	6-Cl	H	CF_3	Br	CH
Me	6-Me	H	*i*-Pr	Br	CH	Me	6-Cl	H	*i*-Pr	Br	CH
Et	6-Me	H	*i*-Pr	Br	CH	Et	6-Cl	H	*i*-Pr	Br	CH
i-Pr	6-Me	H	*i*-Pr	Br	CH	*i*-Pr	6-Cl	H	*i*-Pr	Br	CH
t-Bu	6-Me	H	*i*-Pr	Br	CH	*t*-Bu	6-Cl	H	*i*-Pr	Br	CH
Me	6-Me	H	C_2F_5	Br	CH	Me	6-Cl	H	C_2F_5	Br	CH
Et	6-Me	H	C_2F_5	Br	CH	Et	6-Cl	H	C_2F_5	Br	CH
i-Pr	6-Me	H	C_2F_5	Br	CH	*i*-Pr	6-Cl	H	C_2F_5	Br	CH
t-Bu	6-Me	H	C_2F_5	Br	CH	*t*-Bu	6-Cl	H	C_2F_5	Br	CH
Me	6-Me	H	*n*-C_3F_7	Br	CH	Me	6-Cl	H	*n*-C_3F_7	Br	CH
Et	6-Me	H	*n*-C_3F_7	Br	CH	Et	6-Cl	H	*n*-C_3F_7	Br	CH
i-Pr	6-Me	H	*n*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	Br	CH
t-Bu	6-Me	H	*n*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	Br	CH
Me	6-Me	H	*i*-C_3F_7	Br	CH	Me	6-Cl	H	*i*-C_3F_7	Br	CH
Et	6-Me	H	*i*-C_3F_7	Br	CH	Et	6-Cl	H	*i*-C_3F_7	Br	CH
i-Pr	6-Me	H	*i*-C_3F_7	Br	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	Br	CH
t-Bu	6-Me	H	*i*-C_3F_7	Br	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	Br	CH
Me	6-Me	H	Et	Br	CH	Me	6-Cl	H	Et	Br	CH
Et	6-Me	H	Et	Br	CH	Et	6-Cl	H	Et	Br	CH
i-Pr	6-Me	H	Et	Br	CH	*i*-Pr	6-Cl	H	Et	Br	CH
t-Bu	6-Me	H	Et	Br	CH	*t*-Bu	6-Cl	H	Et	Br	CH
Me	6-Me	H	CHF_2	CF_3	CH	Me	6-Cl	H	CHF_2	CF_3	CH
Et	6-Me	H	CHF_2	CF_3	CH	Et	6-Cl	H	CHF_2	CF_3	CH
i-Pr	6-Me	H	CHF_2	CF_3	CH	*i*-Pr	6-Cl	H	CHF_2	CF_3	CH
t-Bu	6-Me	H	CHF_2	CF_3	CH	*t*-Bu	6-Cl	H	CHF_2	CF_3	CH
Me	6-Me	H	*n*-Pr	CF_3	CH	Me	6-Cl	H	*n*-Pr	CF_3	CH
Et	6-Me	H	*n*-Pr	CF_3	CH	Et	6-Cl	H	*n*-Pr	CF_3	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
i-Pr	6-Me	H	*n*-Pr	CF_3	CH	*i*-Pr	6-Cl	H	*n*-Pr	CF_3	CH
t-Bu	6-Me	H	*n*-Pr	CF_3	CH	*t*-Bu	6-Cl	H	*n*-Pr	CF_3	CH
Me	6-Me	H	CF_3	CF_3	CH	Me	6-Cl	H	CF_3	CF_3	CH
Et	6-Me	H	CF_3	CF_3	CH	Et	6-Cl	H	CF_3	CF_3	CH
i-Pr	6-Me	H	CF_3	CF_3	CH	*i*-Pr	6-Cl	H	CF_3	CF_3	CH
t-Bu	6-Me	H	CF_3	CF_3	CH	*t*-Bu	6-Cl	H	CF_3	CF_3	CH
Me	6-Me	H	*i*-Pr	CF_3	CH	Me	6-Cl	H	*i*-Pr	CF_3	CH
Et	6-Me	H	*i*-Pr	CF_3	CH	Et	6-Cl	H	*i*-Pr	CF_3	CH
i-Pr	6-Me	H	*i*-Pr	CF_3	CH	*i*-Pr	6-Cl	H	*i*-Pr	CF_3	CH
t-Bu	6-Me	H	*i*-Pr	CF_3	CH	*t*-Bu	6-Cl	H	*i*-Pr	CF_3	CH
Me	6-Me	H	C_2F_5	CF_3	CH	Me	6-Cl	H	C_2F_5	CF_3	CH
Et	6-Me	H	C_2F_5	CF_3	CH	Et	6-Cl	H	C_2F_5	CF_3	CH
i-Pr	6-Me	H	C_2F_5	CF_3	CH	*i*-Pr	6-Cl	H	C_2F_5	CF_3	CH
t-Bu	6-Me	H	C_2F_5	CF_3	CH	*t*-Bu	6-Cl	H	C_2F_5	CF_3	CH
Me	6-Me	H	*n*-C_3F_7	CF_3	CH	Me	6-Cl	H	*n*-C_3F_7	CF_3	CH
Et	6-Me	H	*n*-C_3F_7	CF_3	CH	Et	6-Cl	H	*n*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*n*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*n*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*n*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*n*-C_3F_7	CF_3	CH
Me	6-Me	H	*i*-C_3F_7	CF_3	CH	Me	6-Cl	H	*i*-C_3F_7	CF_3	CH
Et	6-Me	H	*i*-C_3F_7	CF_3	CH	Et	6-Cl	H	*i*-C_3F_7	CF_3	CH
i-Pr	6-Me	H	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	H	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	H	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	H	*i*-C_3F_7	CF_3	CH
Me	6-Me	H	Et	CF_3	CH	Me	6-Cl	H	Et	CF_3	CH
Et	6-Me	H	Et	CF_3	CH	Et	6-Cl	H	Et	CF_3	CH
i-Pr	6-Me	H	Et	CF_3	CH	*i*-Pr	6-Cl	H	Et	CF_3	CH
t-Bu	6-Me	H	Et	CF_3	CH	*t*-Bu	6-Cl	H	Et	CF_3	CH
Me	6-Me	Cl	CHF_2	F	CH	Me	6-Cl	Cl	CHF_2	F	CH
Et	6-Me	Cl	CHF_2	F	CH	Et	6-Cl	Cl	CHF_2	F	CH
i-Pr	6-Me	Cl	CHF_2	F	CH	*i*-Pr	6-Cl	Cl	CHF_2	F	CH
t-Bu	6-Me	Cl	CHF_2	F	CH	*t*-Bu	6-Cl	Cl	CHF_2	F	CH
Me	6-Me	Cl	*n*-Pr	F	CH	Me	6-Cl	Cl	*n*-Pr	F	CH
Et	6-Me	Cl	*n*-Pr	F	CH	Et	6-Cl	Cl	*n*-Pr	F	CH
i-Pr	6-Me	Cl	*n*-Pr	F	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	F	CH
t-Bu	6-Me	Cl	*n*-Pr	F	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	F	CH
Me	6-Me	Cl	CF_3	F	CH	Me	6-Cl	Cl	CF_3	F	CH
Et	6-Me	Cl	CF_3	F	CH	Et	6-Cl	Cl	CF_3	F	CH
i-Pr	6-Me	Cl	CF_3	F	CH	*i*-Pr	6-Cl	Cl	CF_3	F	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
t-Bu	6-Me	Cl	CF_3	F	CH	*t*-Bu	6-Cl	Cl	CF_3	F	CH
Me	6-Me	Cl	*i*-Pr	F	CH	Me	6-Cl	Cl	*i*-Pr	F	CH
Et	6-Me	Cl	*i*-Pr	F	CH	Et	6-Cl	Cl	*i*-Pr	F	CH
i-Pr	6-Me	Cl	*i*-Pr	F	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	F	CH
t-Bu	6-Me	Cl	*i*-Pr	F	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	F	CH
Me	6-Me	Cl	C_2F_5	F	CH	Me	6-Cl	Cl	C_2F_5	F	CH
Et	6-Me	Cl	C_2F_5	F	CH	Et	6-Cl	Cl	C_2F_5	F	CH
i-Pr	6-Me	Cl	C_2F_5	F	CH	*i*-Pr	6-Cl	Cl	C_2F_5	F	CH
t-Bu	6-Me	Cl	C_2F_5	F	CH	*t*-Bu	6-Cl	Cl	C_2F_5	F	CH
Me	6-Me	Cl	*n*-C_3F_7	F	CH	Me	6-Cl	Cl	*n*-C_3F_7	F	CH
Et	6-Me	Cl	*n*-C_3F_7	F	CH	Et	6-Cl	Cl	*n*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	F	CH
Me	6-Me	Cl	*i*-C_3F_7	F	CH	Me	6-Cl	Cl	*i*-C_3F_7	F	CH
Et	6-Me	Cl	*i*-C_3F_7	F	CH	Et	6-Cl	Cl	*i*-C_3F_7	F	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	F	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	F	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	F	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	F	CH
Me	6-Me	Cl	Et	F	CH	Me	6-Cl	Cl	Et	F	CH
Et	6-Me	Cl	Et	F	CH	Et	6-Cl	Cl	Et	F	CH
i-Pr	6-Me	Cl	Et	F	CH	*i*-Pr	6-Cl	Cl	Et	F	CH
t-Bu	6-Me	Cl	Et	F	CH	*t*-Bu	6-Cl	Cl	Et	F	CH
Me	6-Me	Cl	CHF_2	Cl	CH	Me	6-Cl	Cl	CHF_2	Cl	CH
Et	6-Me	Cl	CHF_2	Cl	CH	Et	6-Cl	Cl	CHF_2	Cl	CH
i-Pr	6-Me	Cl	CHF_2	Cl	CH	*i*-Pr	6-Cl	Cl	CHF_2	Cl	CH
t-Bu	6-Me	Cl	CHF_2	Cl	CH	*t*-Bu	6-Cl	Cl	CHF_2	Cl	CH
Me	6-Me	Cl	*n*-Pr	Cl	CH	Me	6-Cl	Cl	*n*-Pr	Cl	CH
Et	6-Me	Cl	*n*-Pr	Cl	CH	Et	6-Cl	Cl	*n*-Pr	Cl	CH
i-Pr	6-Me	Cl	*n*-Pr	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	Cl	CH
t-Bu	6-Me	Cl	*n*-Pr	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	Cl	CH
Me	6-Me	Cl	CF_3	Cl	CH	Me	6-Cl	Cl	CF_3	Cl	CH
Et	6-Me	Cl	CF_3	Cl	CH	Et	6-Cl	Cl	CF_3	Cl	CH
i-Pr	6-Me	Cl	CF_3	Cl	CH	*i*-Pr	6-Cl	Cl	CF_3	Cl	CH
t-Bu	6-Me	Cl	CF_3	Cl	CH	*t*-Bu	6-Cl	Cl	CF_3	Cl	CH
Me	6-Me	Cl	*i*-Pr	Cl	CH	Me	6-Cl	Cl	*i*-Pr	Cl	CH
Et	6-Me	Cl	*i*-Pr	Cl	CH	Et	6-Cl	Cl	*i*-Pr	Cl	CH
i-Pr	6-Me	Cl	*i*-Pr	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	Cl	CH
t-Bu	6-Me	Cl	*i*-Pr	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	Cl	CH

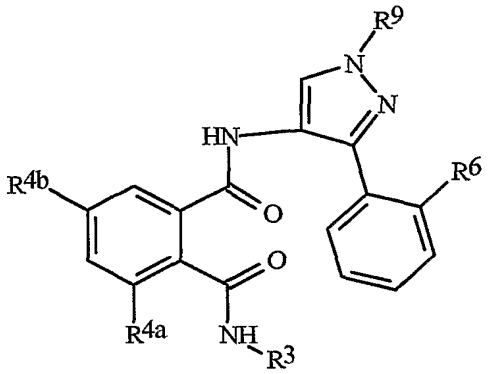
R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Me	6-Me	Cl	C_2F_5	Cl	CH	Me	6-Cl	Cl	C_2F_5	Cl	CH
Et	6-Me	Cl	C_2F_5	Cl	CH	Et	6-Cl	Cl	C_2F_5	Cl	CH
i-Pr	6-Me	Cl	C_2F_5	Cl	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Cl	CH
t-Bu	6-Me	Cl	C_2F_5	Cl	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Cl	CH
Me	6-Me	Cl	*n*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Et	6-Me	Cl	*n*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*n*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*n*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*n*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*n*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*n*-C_3F_7	Cl	CH
Me	6-Me	Cl	*i*-C_3F_7	Cl	CH	Me	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Et	6-Me	Cl	*i*-C_3F_7	Cl	CH	Et	6-Cl	Cl	*i*-C_3F_7	Cl	CH
i-Pr	6-Me	Cl	*i*-C_3F_7	Cl	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	Cl	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	Cl	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	Cl	CH
Me	6-Me	Cl	Et	Cl	CH	Me	6-Cl	Cl	Et	Cl	CH
Et	6-Me	Cl	Et	Cl	CH	Et	6-Cl	Cl	Et	Cl	CH
i-Pr	6-Me	Cl	Et	Cl	CH	*i*-Pr	6-Cl	Cl	Et	Cl	CH
t-Bu	6-Me	Cl	Et	Cl	CH	*t*-Bu	6-Cl	Cl	Et	Cl	CH
Me	6-Me	Cl	CHF_2	Br	CH	Me	6-Cl	Cl	CHF_2	Br	CH
Et	6-Me	Cl	CHF_2	Br	CH	Et	6-Cl	Cl	CHF_2	Br	CH
i-Pr	6-Me	Cl	CHF_2	Br	CH	*i*-Pr	6-Cl	Cl	CHF_2	Br	CH
t-Bu	6-Me	Cl	CHF_2	Br	CH	*t*-Bu	6-Cl	Cl	CHF_2	Br	CH
Me	6-Me	Cl	*n*-Pr	Br	CH	Me	6-Cl	Cl	*n*-Pr	Br	CH
Et	6-Me	Cl	*n*-Pr	Br	CH	Et	6-Cl	Cl	*n*-Pr	Br	CH
i-Pr	6-Me	Cl	*n*-Pr	Br	CH	*i*-Pr	6-Cl	Cl	*n*-Pr	Br	CH
t-Bu	6-Me	Cl	*n*-Pr	Br	CH	*t*-Bu	6-Cl	Cl	*n*-Pr	Br	CH
Me	6-Me	Cl	CF_3	Br	CH	Me	6-Cl	Cl	CF_3	Br	CH
Et	6-Me	Cl	CF_3	Br	CH	Et	6-Cl	Cl	CF_3	Br	CH
i-Pr	6-Me	Cl	CF_3	Br	CH	*i*-Pr	6-Cl	Cl	CF_3	Br	CH
t-Bu	6-Me	Cl	CF_3	Br	CH	*t*-Bu	6-Cl	Cl	CF_3	Br	CH
Me	6-Me	Cl	*i*-Pr	Br	CH	Me	6-Cl	Cl	*i*-Pr	Br	CH
Et	6-Me	Cl	*i*-Pr	Br	CH	Et	6-Cl	Cl	*i*-Pr	Br	CH
i-Pr	6-Me	Cl	*i*-Pr	Br	CH	*i*-Pr	6-Cl	Cl	*i*-Pr	Br	CH
t-Bu	6-Me	Cl	*i*-Pr	Br	CH	*t*-Bu	6-Cl	Cl	*i*-Pr	Br	CH
Me	6-Me	Cl	C_2F_5	Br	CH	Me	6-Cl	Cl	C_2F_5	Br	CH
Et	6-Me	Cl	C_2F_5	Br	CH	Et	6-Cl	Cl	C_2F_5	Br	CH
i-Pr	6-Me	Cl	C_2F_5	Br	CH	*i*-Pr	6-Cl	Cl	C_2F_5	Br	CH
t-Bu	6-Me	Cl	C_2F_5	Br	CH	*t*-Bu	6-Cl	Cl	C_2F_5	Br	CH
Me	6-Me	Cl	*n*-C_3F_7	Br	CH	Me	6-Cl	Cl	*n*-C_3F_7	Br	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
Et	6-Me	Cl	n-C_3F_7	Br	CH	Et	6-Cl	Cl	n-C_3F_7	Br	CH
i-Pr	6-Me	Cl	n-C_3F_7	Br	CH	i-Pr	6-Cl	Cl	n-C_3F_7	Br	CH
t-Bu	6-Me	Cl	n-C_3F_7	Br	CH	t-Bu	6-Cl	Cl	n-C_3F_7	Br	CH
Me	6-Me	Cl	i-C_3F_7	Br	CH	Me	6-Cl	Cl	i-C_3F_7	Br	CH
Et	6-Me	Cl	i-C_3F_7	Br	CH	Et	6-Cl	Cl	i-C_3F_7	Br	CH
i-Pr	6-Me	Cl	i-C_3F_7	Br	CH	i-Pr	6-Cl	Cl	i-C_3F_7	Br	CH
t-Bu	6-Me	Cl	i-C_3F_7	Br	CH	t-Bu	6-Cl	Cl	i-C_3F_7	Br	CH
Me	6-Me	Cl	Et	Br	CH	Me	6-Cl	Cl	Et	Br	CH
Et	6-Me	Cl	Et	Br	CH	Et	6-Cl	Cl	Et	Br	CH
i-Pr	6-Me	Cl	Et	Br	CH	i-Pr	6-Cl	Cl	Et	Br	CH
t-Bu	6-Me	Cl	Et	Br	CH	t-Bu	6-Cl	Cl	Et	Br	CH
Me	6-Me	Cl	CHF_2	CF_3	CH	Me	6-Cl	Cl	CHF_2	CF_3	CH
Et	6-Me	Cl	CHF_2	CF_3	CH	Et	6-Cl	Cl	CHF_2	CF_3	CH
i-Pr	6-Me	Cl	CHF_2	CF_3	CH	i-Pr	6-Cl	Cl	CHF_2	CF_3	CH
t-Bu	6-Me	Cl	CHF_2	CF_3	CH	t-Bu	6-Cl	Cl	CHF_2	CF_3	CH
Me	6-Me	Cl	n-Pr	CF_3	CH	Me	6-Cl	Cl	n-Pr	CF_3	CH
Et	6-Me	Cl	n-Pr	CF_3	CH	Et	6-Cl	Cl	n-Pr	CF_3	CH
i-Pr	6-Me	Cl	n-Pr	CF_3	CH	i-Pr	6-Cl	Cl	n-Pr	CF_3	CH
t-Bu	6-Me	Cl	n-Pr	CF_3	CH	t-Bu	6-Cl	Cl	n-Pr	CF_3	CH
Me	6-Me	Cl	CF_3	CF_3	CH	Me	6-Cl	Cl	CF_3	CF_3	CH
Et	6-Me	Cl	CF_3	CF_3	CH	Et	6-Cl	Cl	CF_3	CF_3	CH
i-Pr	6-Me	Cl	CF_3	CF_3	CH	i-Pr	6-Cl	Cl	CF_3	CF_3	CH
t-Bu	6-Me	Cl	CF_3	CF_3	CH	t-Bu	6-Cl	Cl	CF_3	CF_3	CH
Me	6-Me	Cl	i-Pr	CF_3	CH	Me	6-Cl	Cl	i-Pr	CF_3	CH
Et	6-Me	Cl	i-Pr	CF_3	CH	Et	6-Cl	Cl	i-Pr	CF_3	CH
i-Pr	6-Me	Cl	i-Pr	CF_3	CH	i-Pr	6-Cl	Cl	i-Pr	CF_3	CH
t-Bu	6-Me	Cl	i-Pr	CF_3	CH	t-Bu	6-Cl	Cl	i-Pr	CF_3	CH
Me	6-Me	Cl	C_2F_5	CF_3	CH	Me	6-Cl	Cl	C_2F_5	CF_3	CH
Et	6-Me	Cl	C_2F_5	CF_3	CH	Et	6-Cl	Cl	C_2F_5	CF_3	CH
i-Pr	6-Me	Cl	C_2F_5	CF_3	CH	i-Pr	6-Cl	Cl	C_2F_5	CF_3	CH
t-Bu	6-Me	Cl	C_2F_5	CF_3	CH	t-Bu	6-Cl	Cl	C_2F_5	CF_3	CH
Me	6-Me	Cl	n-C_3F_7	CF_3	CH	Me	6-Cl	Cl	n-C_3F_7	CF_3	CH
Et	6-Me	Cl	n-C_3F_7	CF_3	CH	Et	6-Cl	Cl	n-C_3F_7	CF_3	CH
i-Pr	6-Me	Cl	n-C_3F_7	CF_3	CH	i-Pr	6-Cl	Cl	n-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	n-C_3F_7	CF_3	CH	t-Bu	6-Cl	Cl	n-C_3F_7	CF_3	CH
Me	6-Me	Cl	i-C_3F_7	CF_3	CH	Me	6-Cl	Cl	i-C_3F_7	CF_3	CH
Et	6-Me	Cl	i-C_3F_7	CF_3	CH	Et	6-Cl	Cl	i-C_3F_7	CF_3	CH

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
i-Pr	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*i*-Pr	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
t-Bu	6-Me	Cl	*i*-C_3F_7	CF_3	CH	*t*-Bu	6-Cl	Cl	*i*-C_3F_7	CF_3	CH
Me	6-Me	Cl	Et	CF_3	CH	Me	6-Cl	Cl	Et	CF_3	CH
Et	6-Me	Cl	Et	CF_3	CH	Et	6-Cl	Cl	Et	CF_3	CH
i-Pr	6-Me	Cl	Et	CF_3	CH	*i*-Pr	6-Cl	Cl	Et	CF_3	CH
t-Bu	6-Me	Cl	Et	CF_3	CH	*t*-Bu	6-Cl	Cl	Et	CF_3	CH
Me	6-Me	H	CHF_2	F	CF	Me	6-Cl	H	CHF_2	F	CF
Et	6-Me	H	CHF_2	F	CF	Et	6-Cl	H	CHF_2	F	CF
i-Pr	6-Me	H	CHF_2	F	CF	*i*-Pr	6-Cl	H	CHF_2	F	CF
t-Bu	6-Me	H	CHF_2	F	CF	*t*-Bu	6-Cl	H	CHF_2	F	CF
Me	6-Me	H	*n*-Pr	F	CF	Me	6-Cl	H	*n*-Pr	F	CF
Et	6-Me	H	*n*-Pr	F	CF	Et	6-Cl	H	*n*-Pr	F	CF
i-Pr	6-Me	H	*n*-Pr	F	CF	*i*-Pr	6-Cl	H	*n*-Pr	F	CF
t-Bu	6-Me	H	*n*-Pr	F	CF	*t*-Bu	6-Cl	H	*n*-Pr	F	CF
Me	6-Me	H	CF_3	F	CF	Me	6-Cl	H	CF_3	F	CF
Et	6-Me	H	CF_3	F	CF	Et	6-Cl	H	CF_3	F	CF
i-Pr	6-Me	H	CF_3	F	CF	*i*-Pr	6-Cl	H	CF_3	F	CF
t-Bu	6-Me	H	CF_3	F	CF	*t*-Bu	6-Cl	H	CF_3	F	CF
Me	6-Me	H	*i*-Pr	F	CF	Me	6-Cl	H	*i*-Pr	F	CF
Et	6-Me	H	*i*-Pr	F	CF	Et	6-Cl	H	*i*-Pr	F	CF
i-Pr	6-Me	H	*i*-Pr	F	CF	*i*-Pr	6-Cl	H	*i*-Pr	F	CF
t-Bu	6-Me	H	*i*-Pr	F	CF	*t*-Bu	6-Cl	H	*i*-Pr	F	CF
Me	6-Me	H	C_2F_5	F	CF	Me	6-Cl	H	C_2F_5	F	CF
Et	6-Me	H	C_2F_5	F	CF	Et	6-Cl	H	C_2F_5	F	CF
i-Pr	6-Me	H	C_2F_5	F	CF	*i*-Pr	6-Cl	H	C_2F_5	F	CF
t-Bu	6-Me	H	C_2F_5	F	CF	*t*-Bu	6-Cl	H	C_2F_5	F	CF
Me	6-Me	H	*n*-C_3F_7	F	CF	Me	6-Cl	H	*n*-C_3F_7	F	CF
Et	6-Me	H	*n*-C_3F_7	F	CF	Et	6-Cl	H	*n*-C_3F_7	F	CF
i-Pr	6-Me	H	*n*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*n*-C_3F_7	F	CF
t-Bu	6-Me	H	*n*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*n*-C_3F_7	F	CF
Me	6-Me	H	*i*-C_3F_7	F	CF	Me	6-Cl	H	*i*-C_3F_7	F	CF
Et	6-Me	H	*i*-C_3F_7	F	CF	Et	6-Cl	H	*i*-C_3F_7	F	CF
i-Pr	6-Me	H	*i*-C_3F_7	F	CF	*i*-Pr	6-Cl	H	*i*-C_3F_7	F	CF
t-Bu	6-Me	H	*i*-C_3F_7	F	CF	*t*-Bu	6-Cl	H	*i*-C_3F_7	F	CF
Me	6-Me	H	Et	F	CF	Me	6-Cl	H	Et	F	CF
Et	6-Me	H	Et	F	CF	Et	6-Cl	H	Et	F	CF
i-Pr	6-Me	H	Et	F	CF	*i*-Pr	6-Cl	H	Et	F	CF

R^3	R^{4a}	R^{4b}	R^9	R^6	X	R^3	R^{4a}	R^{4b}	R^9	R^6	X
t-Bu	6-Me	H	Et	F	CF	*t*-Bu	6-Cl	H	Et	F	CF
Me	6-Me	H	CHF_2	Cl	CCl	Me	6-Cl	H	CHF_2	Cl	CCl
Et	6-Me	H	CHF_2	Cl	CCl	Et	6-Cl	H	CHF_2	Cl	CCl
i-Pr	6-Me	H	CHF_2	Cl	CCl	*i*-Pr	6-Cl	H	CHF_2	Cl	CCl
t-Bu	6-Me	H	CHF_2	Cl	CCl	*t*-Bu	6-Cl	H	CHF_2	Cl	CCl
Me	6-Me	H	*n*-Pr	Cl	CCl	Me	6-Cl	H	*n*-Pr	Cl	CCl
Et	6-Me	H	*n*-Pr	Cl	CCl	Et	6-Cl	H	*n*-Pr	Cl	CCl
i-Pr	6-Me	H	*n*-Pr	Cl	CCl	*i*-Pr	6-Cl	H	*n*-Pr	Cl	CCl
t-Bu	6-Me	H	*n*-Pr	Cl	CCl	*t*-Bu	6-Cl	H	*n*-Pr	Cl	CCl
Me	6-Me	H	CF_3	Cl	CCl	Me	6-Cl	H	CF_3	Cl	CCl
Et	6-Me	H	CF_3	Cl	CCl	Et	6-Cl	H	CF_3	Cl	CCl
i-Pr	6-Me	H	CF_3	Cl	CCl	*i*-Pr	6-Cl	H	CF_3	Cl	CCl
t-Bu	6-Me	H	CF_3	Cl	CCl	*t*-Bu	6-Cl	H	CF_3	Cl	CCl
Me	6-Me	H	*i*-Pr	Cl	CCl	Me	6-Cl	H	*i*-Pr	Cl	CCl
Et	6-Me	H	*i*-Pr	Cl	CCl	Et	6-Cl	H	*i*-Pr	Cl	CCl
i-Pr	6-Me	H	*i*-Pr	Cl	CCl	*i*-Pr	6-Cl	H	*i*-Pr	Cl	CCl
t-Bu	6-Me	H	*i*-Pr	Cl	CCl	*t*-Bu	6-Cl	H	*i*-Pr	Cl	CCl
Me	6-Me	H	C_2F_5	Cl	CCl	Me	6-Cl	H	C_2F_5	Cl	CCl
Et	6-Me	H	C_2F_5	Cl	CCl	Et	6-Cl	H	C_2F_5	Cl	CCl
i-Pr	6-Me	H	C_2F_5	Cl	CCl	*i*-Pr	6-Cl	H	C_2F_5	Cl	CCl
t-Bu	6-Me	H	C_2F_5	Cl	CCl	*t*-Bu	6-Cl	H	C_2F_5	Cl	CCl
Me	6-Me	H	*n*-C_3F_7	Cl	CCl	Me	6-Cl	H	*n*-C_3F_7	Cl	CCl
Et	6-Me	H	*n*-C_3F_7	Cl	CCl	Et	6-Cl	H	*n*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*n*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*n*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*n*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*n*-C_3F_7	Cl	CCl
Me	6-Me	H	*i*-C_3F_7	Cl	CCl	Me	6-Cl	H	*i*-C_3F_7	Cl	CCl
Et	6-Me	H	*i*-C_3F_7	Cl	CCl	Et	6-Cl	H	*i*-C_3F_7	Cl	CCl
i-Pr	6-Me	H	*i*-C_3F_7	Cl	CCl	*i*-Pr	6-Cl	H	*i*-C_3F_7	Cl	CCl
t-Bu	6-Me	H	*i*-C_3F_7	Cl	CCl	*t*-Bu	6-Cl	H	*i*-C_3F_7	Cl	CCl
Me	6-Me	H	Et	Cl	CCl	Me	6-Cl	H	Et	Cl	CCl
Et	6-Me	H	Et	Cl	CCl	Et	6-Cl	H	Et	Cl	CCl
i-Pr	6-Me	H	Et	Cl	CCl	*i*-Pr	6-Cl	H	Et	Cl	CCl
t-Bu	6-Me	H	Et	Cl	CCl	*t*-Bu	6-Cl	H	Et	Cl	CCl

Table 18



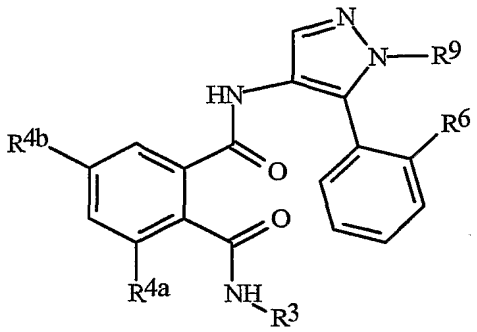
R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	H	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	H	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	H	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	F	Cl	Me	CH_3	F	Cl	Me	CH_3	F	Cl
Et	CH_3	F	Cl	Et	CH_3	F	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	F	Br	Me	CH_3	F	Br	Me	CH_3	F	Br
Et	CH_3	F	Br	Et	CH_3	F	Br	Et	CH_3	F	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br
Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Cl	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Cl	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	Br	Cl	Me	CH_3	Br	Cl	Me	CH_3	Br	Cl
Et	CH_3	Br	Cl	Et	CH_3	Br	Cl	Et	CH_3	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	Br	Br	Me	CH_3	Br	Br	Me	CH_3	Br	Br
Et	CH_3	Br	Br	Et	CH_3	Br	Br	Et	CH_3	Br	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	I	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	I	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	I	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	F	Br	Me	Cl	H	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	F	Br	Et	Cl	H	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	H	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	H	Br
Me	Cl	F	Cl	Me	Cl	F	Cl	Me	Cl	H	Cl
Et	Cl	F	Cl	Et	Cl	F	Cl	Et	Cl	H	Cl
i-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	F	Br	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	F	Br	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	F	Br	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	F	Br	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	Cl	Cl	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	Cl	Cl	Et	Cl	Cl	Cl	Et	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Br	Me	Cl	H	Br	Me	Cl	F	Br
Et	Cl	H	Br	Et	Cl	H	Br	Et	Cl	F	Br
i-Pr	Cl	H	Br	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Br	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	F	Br
Me	Cl	H	Cl	Me	Cl	H	Cl	Me	Cl	F	Cl
Et	Cl	H	Cl	Et	Cl	H	Cl	Et	Cl	F	Cl
i-Pr	Cl	H	Cl	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	H	Cl	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	Br	Br	Me	Cl	Br	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Br	Et	Cl	Br	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Br	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Br	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	Br	Cl	Me	Cl	I	Cl	Me	Cl	CF_3	Cl
Et	Cl	Br	Cl	Et	Cl	I	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	I	Br	Me	Cl	I	Br	Me	Br	F	Cl
Et	Cl	I	Br	Et	Cl	I	Br	Et	Br	F	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	I	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	I	Br	*t*-Bu	Br	F	Cl
Me	Cl	I	Cl	Me	Cl	CF_3	Cl	Me	Br	F	Br
Et	Cl	I	Cl	Et	Cl	CF_3	Cl	Et	Br	F	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Br	F	Br
Me	Cl	CF_3	Br	Me	Cl	CF_3	Br	Me	Br	Cl	Cl
Et	Cl	CF_3	Br	Et	Cl	CF_3	Br	Et	Br	Cl	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	Cl	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	Cl	Cl
Me	Cl	CF_3	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	Cl	Br
Et	Cl	CF_3	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	Cl	Br
i-Pr	Cl	CF_3	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	Cl	Br
t-Bu	Cl	CF_3	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	Cl	Br
Me	Br	F	Cl	Me	Br	F	Cl	Me	Br	Br	Cl
Et	Br	F	Cl	Et	Br	F	Cl	Et	Br	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Br	F	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Br	Cl
t-Bu	Br	F	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Br	Cl
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	F	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Br	Br
Me	Br	Cl	Cl	Me	Br	Cl	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Cl	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Cl	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Cl	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	I	Br
Me	Br	Br	Cl	Me	Br	Br	Cl	Me	Br	CF_3	Cl
Et	Br	Br	Cl	Et	Br	Br	Cl	Et	Br	CF_3	Cl
i-Pr	Br	Br	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	Br	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF_3	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF_3	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	CF_3	Br
Me	Br	I	Cl	Me	Br	I	Cl	Me	Cl	Cl	Br
Et	Br	I	Cl	Et	Br	I	Cl	Et	Cl	Cl	Br
i-Pr	Br	I	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Cl	Cl	Br
t-Bu	Br	I	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Cl	Cl	Br
Me	Br	I	Br	Me	Br	I	Br	Me	Cl	Cl	Cl
Et	Br	I	Br	Et	Br	I	Br	Et	Cl	Cl	Cl
i-Pr	Br	I	Br	*i*-Pr	Br	I	Br	*i*-Pr	Cl	Cl	Cl
t-Bu	Br	I	Br	*t*-Bu	Br	I	Br	*t*-Bu	Cl	Cl	Cl

Table 19



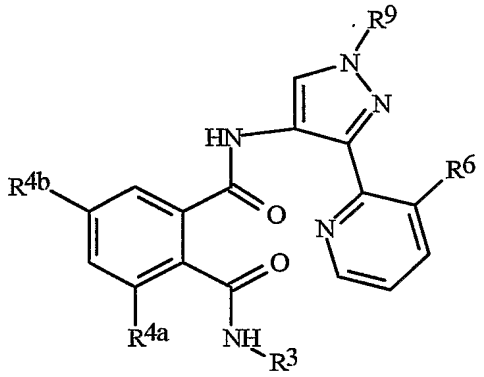
R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	H	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	H	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	H	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	F	Cl	Me	CH_3	F	Cl	Me	CH_3	F	Cl
Et	CH_3	F	Cl	Et	CH_3	F	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	F	Br	Me	CH_3	F	Br	Me	CH_3	F	Br
Et	CH_3	F	Br	Et	CH_3	F	Br	Et	CH_3	F	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br
Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Cl	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Cl	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	Br	Cl	Me	CH_3	Br	Cl	Me	CH_3	Br	Cl
Et	CH_3	Br	Cl	Et	CH_3	Br	Cl	Et	CH_3	Br	Cl
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	Br	Br	Me	CH_3	Br	Br	Me	CH_3	Br	Br
Et	CH_3	Br	Br	Et	CH_3	Br	Br	Et	CH_3	Br	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	I	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	I	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	I	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	F	Br	Me	Cl	H	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	F	Br	Et	Cl	H	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	H	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	H	Br
Me	Cl	F	Cl	Me	Cl	F	Cl	Me	Cl	H	Cl
Et	Cl	F	Cl	Et	Cl	F	Cl	Et	Cl	H	Cl
i-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	F	Br	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	F	Br	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	F	Br	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	F	Br	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	Cl	Cl	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	Cl	Cl	Et	Cl	Cl	Cl	Et	Cl	I	Cl
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Br	Me	Cl	H	Br	Me	Cl	F	Br
Et	Cl	H	Br	Et	Cl	H	Br	Et	Cl	F	Br
i-Pr	Cl	H	Br	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Br	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	F	Br
Me	Cl	H	Cl	Me	Cl	H	Cl	Me	Cl	F	Cl
Et	Cl	H	Cl	Et	Cl	H	Cl	Et	Cl	F	Cl
i-Pr	Cl	H	Cl	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	H	Cl	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	Br	Br	Me	Cl	Br	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Br	Et	Cl	Br	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Br	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Br	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	Br	Cl	Me	Cl	I	Cl	Me	Cl	CF_3	Cl
Et	Cl	Br	Cl	Et	Cl	I	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	I	Br	Me	Cl	I	Br	Me	Br	F	Cl
Et	Cl	I	Br	Et	Cl	I	Br	Et	Br	F	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	I	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	I	Br	*t*-Bu	Br	F	Cl
Me	Cl	I	Cl	Me	Cl	CF_3	Cl	Me	Br	F	Br
Et	Cl	I	Cl	Et	Cl	CF_3	Cl	Et	Br	F	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Br	F	Br
Me	Cl	CF_3	Br	Me	Cl	CF_3	Br	Me	Br	Cl	Cl
Et	Cl	CF_3	Br	Et	Cl	CF_3	Br	Et	Br	Cl	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	Cl	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	Cl	Cl
Me	Cl	CF_3	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	Cl	Br
Et	Cl	CF_3	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	Cl	Br
i-Pr	Cl	CF_3	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	Cl	Br
t-Bu	Cl	CF_3	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	Cl	Br
Me	Br	F	Cl	Me	Br	F	Cl	Me	Br	Br	Cl
Et	Br	F	Cl	Et	Br	F	Cl	Et	Br	Br	Cl
i-Pr	Br	F	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Br	F	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Br	Cl
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	F	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Br	Br
Me	Br	Cl	Cl	Me	Br	Cl	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Cl	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Cl	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Cl	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	I	Br
Me	Br	Br	Cl	Me	Br	Br	Cl	Me	Br	CF_3	Cl
Et	Br	Br	Cl	Et	Br	Br	Cl	Et	Br	CF_3	Cl
i-Pr	Br	Br	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	Br	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF_3	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF_3	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	CF_3	Br
Me	Br	I	Cl	Me	Br	I	Cl	Me	Cl	Cl	Br
Et	Br	I	Cl	Et	Br	I	Cl	Et	Cl	Cl	Br
i-Pr	Br	I	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Cl	Cl	Br
t-Bu	Br	I	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Cl	Cl	Br
Me	Br	I	Br	Me	Br	I	Br	Me	Cl	Cl	Cl
Et	Br	I	Br	Et	Br	I	Br	Et	Cl	Cl	Cl
i-Pr	Br	I	Br	*i*-Pr	Br	I	Br	*i*-Pr	Cl	Cl	Cl
t-Bu	Br	I	Br	*t*-Bu	Br	I	Br	*t*-Bu	Cl	Cl	Cl

Table 20



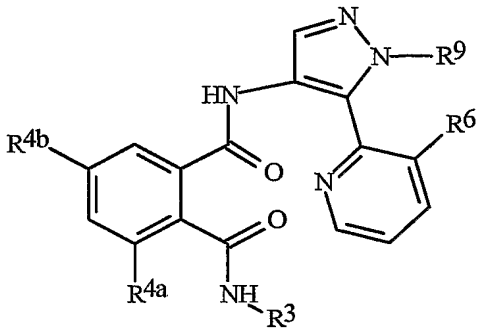
R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	Br	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	Br	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	Br	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	Br	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	Br	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	F	Cl	Me	CH_3	Br	Cl	Me	CH_3	I	Cl
Et	CH_3	F	Cl	Et	CH_3	Br	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	F	Br	Me	CH_3	Br	Br	Me	CH_3	I	Br
Et	CH_3	F	Br	Et	CH_3	Br	Br	Et	CH_3	I	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	Cl	Cl	Me	CH_3	F	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	Cl	Cl	Et	CH_3	F	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	Cl	Br	Me	CH_3	F	Br	Me	CH_3	CF_3	Br
Et	CH_3	Cl	Br	Et	CH_3	F	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	CF_3	Br
Me	CH_3	Br	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Br	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Br	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Br	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	H	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	H	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	H	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	F	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	F	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	F	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	F	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	H	Br	Me	Cl	Cl	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	H	Br	Et	Cl	Cl	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Br
Me	Cl	I	Br	Me	Cl	H	Cl	Me	Cl	Cl	Cl
Et	Cl	I	Br	Et	Cl	H	Cl	Et	Cl	Cl	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	Cl	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	Cl	Cl
Me	Cl	I	Cl	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	I	Cl	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	H	Br	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	H	Br	Et	Cl	Cl	Cl	Et	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl
t-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Cl	Me	Cl	F	Br	Me	Cl	F	Br
Et	Cl	H	Cl	Et	Cl	F	Br	Et	Cl	F	Br
i-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	F	Br
Me	Cl	CF_3	Br	Me	Cl	F	Cl	Me	Cl	F	Cl
Et	Cl	CF_3	Br	Et	Cl	F	Cl	Et	Cl	F	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	CF_3	Cl	Me	Cl	Br	Br	Me	Cl	H	Br
Et	Cl	CF_3	Cl	Et	Cl	Br	Br	Et	Cl	H	Br
i-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	H	Br
t-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	H	Br
Me	Cl	Br	Br	Me	Cl	I	Cl	Me	Cl	H	Cl
Et	Cl	Br	Br	Et	Cl	I	Cl	Et	Cl	H	Cl
i-Pr	Cl	Br	Br	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	Br	Br	*t*-Bu	Cl	I	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	Br	Cl	Me	Cl	I	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Cl	Et	Cl	I	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	F	Br	Me	Cl	CF_3	Cl	Me	Cl	CF_3	Cl
Et	Cl	F	Br	Et	Cl	CF_3	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	F	Br	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	F	Br	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	Cl	Cl	Me	Cl	CF_3	Br	Me	Br	F	Cl
Et	Cl	Cl	Cl	Et	Cl	CF_3	Br	Et	Br	F	Cl
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	F	Cl
Me	Cl	F	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	F	Br
Et	Cl	F	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	F	Br
i-Pr	Cl	F	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	F	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	Cl	Me	Br	Cl	Cl
Et	Br	Br	Cl	Et	Br	F	Cl	Et	Br	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Br	Br	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Cl	Cl
t-Bu	Br	Br	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Cl	Cl
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	Cl	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Cl	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Cl	Br
Me	Br	I	Cl	Me	Br	Cl	Cl	Me	Br	Br	Cl
Et	Br	I	Cl	Et	Br	Cl	Cl	Et	Br	Br	Cl
i-Pr	Br	I	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl
t-Bu	Br	I	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl
Me	Br	I	Br	Me	Br	Cl	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	Cl	Br	Et	Br	Br	Br
i-Pr	Br	I	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	I	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br
Me	Br	F	Cl	Me	Br	I	Cl	Me	Br	CF_3	Cl
Et	Br	F	Cl	Et	Br	I	Cl	Et	Br	CF_3	Cl
i-Pr	Br	F	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	F	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF_3	Br
Et	Br	F	Br	Et	Br	I	Br	Et	Br	CF_3	Br
i-Pr	Br	F	Br	*i*-Pr	Br	I	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	F	Br	*t*-Bu	Br	I	Br	*t*-Bu	Br	CF_3	Br
Me	Br	Cl	Cl	Me	Br	Br	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Br	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Br	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	I	Br

Table 21



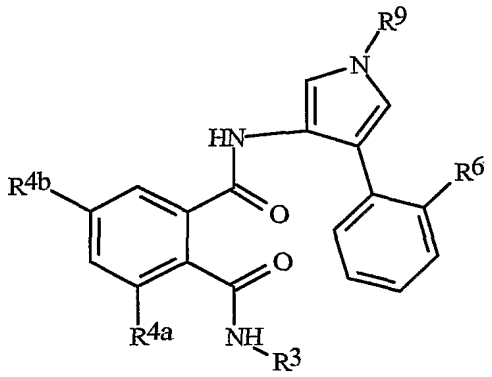
R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	Br	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	Br	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	Br	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	Br	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	Br	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	F	Cl	Me	CH_3	Br	Cl	Me	CH_3	I	Cl
Et	CH_3	F	Cl	Et	CH_3	Br	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	F	Br	Me	CH_3	Br	Br	Me	CH_3	I	Br
Et	CH_3	F	Br	Et	CH_3	Br	Br	Et	CH_3	I	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	Cl	Cl	Me	CH_3	F	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	Cl	Cl	Et	CH_3	F	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	Cl	Br	Me	CH_3	F	Br	Me	CH_3	CF_3	Br
Et	CH_3	Cl	Br	Et	CH_3	F	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	CF_3	Br
Me	CH_3	Br	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Br	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Br	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Br	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	H	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	H	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	H	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	F	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	F	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	F	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	F	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	H	Br	Me	Cl	Cl	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	H	Br	Et	Cl	Cl	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Br
Me	Cl	I	Br	Me	Cl	H	Cl	Me	Cl	Cl	Cl
Et	Cl	I	Br	Et	Cl	H	Cl	Et	Cl	Cl	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	Cl	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	Cl	Cl
Me	Cl	I	Cl	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	I	Cl	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	H	Br	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	H	Br	Et	Cl	Cl	Cl	Et	Cl	I	Cl
i-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Cl	Me	Cl	F	Br	Me	Cl	F	Br
Et	Cl	H	Cl	Et	Cl	F	Br	Et	Cl	F	Br
i-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	F	Br
Me	Cl	CF_3	Br	Me	Cl	F	Cl	Me	Cl	F	Cl
Et	Cl	CF_3	Br	Et	Cl	F	Cl	Et	Cl	F	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	CF_3	Cl	Me	Cl	Br	Br	Me	Cl	H	Br
Et	Cl	CF_3	Cl	Et	Cl	Br	Br	Et	Cl	H	Br
i-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	H	Br
t-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	H	Br
Me	Cl	Br	Br	Me	Cl	I	Cl	Me	Cl	H	Cl
Et	Cl	Br	Br	Et	Cl	I	Cl	Et	Cl	H	Cl
i-Pr	Cl	Br	Br	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	Br	Br	*t*-Bu	Cl	I	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	Br	Cl	Me	Cl	I	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Cl	Et	Cl	I	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	F	Br	Me	Cl	CF_3	Cl	Me	Cl	CF_3	Cl
Et	Cl	F	Br	Et	Cl	CF_3	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	F	Br	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	F	Br	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	Cl	Cl	Me	Cl	CF_3	Br	Me	Br	F	Cl
Et	Cl	Cl	Cl	Et	Cl	CF_3	Br	Et	Br	F	Cl
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	F	Cl
Me	Cl	F	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	F	Br
Et	Cl	F	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	F	Br
i-Pr	Cl	F	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	F	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	Cl	Me	Br	Cl	Cl
Et	Br	Br	Cl	Et	Br	F	Cl	Et	Br	Cl	Cl
i-Pr	Br	Br	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Br	Br	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Cl	Cl
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	Cl	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Cl	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Cl	Br
Me	Br	I	Cl	Me	Br	Cl	Cl	Me	Br	Br	Cl
Et	Br	I	Cl	Et	Br	Cl	Cl	Et	Br	Br	Cl
i-Pr	Br	I	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl
t-Bu	Br	I	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl
Me	Br	I	Br	Me	Br	Cl	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	Cl	Br	Et	Br	Br	Br
i-Pr	Br	I	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	I	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br
Me	Br	F	Cl	Me	Br	I	Cl	Me	Br	CF_3	Cl
Et	Br	F	Cl	Et	Br	I	Cl	Et	Br	CF_3	Cl
i-Pr	Br	F	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	F	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF_3	Br
Et	Br	F	Br	Et	Br	I	Br	Et	Br	CF_3	Br
i-Pr	Br	F	Br	*i*-Pr	Br	I	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	F	Br	*t*-Bu	Br	I	Br	*t*-Bu	Br	CF_3	Br
Me	Br	Cl	Cl	Me	Br	Br	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Br	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Br	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	I	Br

Table 22



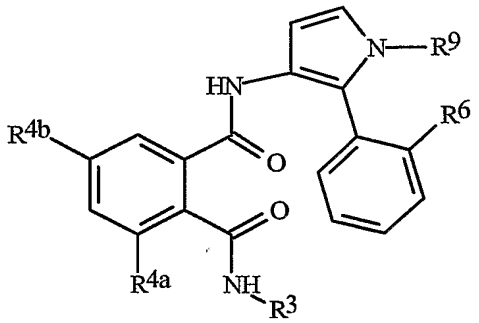
R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	H	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	H	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	H	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	F	Cl	Me	CH_3	F	Cl	Me	CH_3	F	Cl
Et	CH_3	F	Cl	Et	CH_3	F	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	F	Br	Me	CH_3	F	Br	Me	CH_3	F	Br
Et	CH_3	F	Br	Et	CH_3	F	Br	Et	CH_3	F	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br
Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Cl	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Cl	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	Br	Cl	Me	CH_3	Br	Cl	Me	CH_3	Br	Cl
Et	CH_3	Br	Cl	Et	CH_3	Br	Cl	Et	CH_3	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	Br	Br	Me	CH_3	Br	Br	Me	CH_3	Br	Br
Et	CH_3	Br	Br	Et	CH_3	Br	Br	Et	CH_3	Br	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	I	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	I	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	I	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	F	Br	Me	Cl	H	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	F	Br	Et	Cl	H	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	H	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	H	Br
Me	Cl	F	Cl	Me	Cl	F	Cl	Me	Cl	H	Cl
Et	Cl	F	Cl	Et	Cl	F	Cl	Et	Cl	H	Cl
i-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	F	Br	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	F	Br	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	F	Br	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	F	Br	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	Cl	Cl	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	Cl	Cl	Et	Cl	Cl	Cl	Et	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Br	Me	Cl	H	Br	Me	Cl	F	Br
Et	Cl	H	Br	Et	Cl	H	Br	Et	Cl	F	Br
i-Pr	Cl	H	Br	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Br	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	F	Br
Me	Cl	H	Cl	Me	Cl	H	Cl	Me	Cl	F	Cl
Et	Cl	H	Cl	Et	Cl	H	Cl	Et	Cl	F	Cl
i-Pr	Cl	H	Cl	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	H	Cl	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	Br	Br	Me	Cl	Br	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Br	Et	Cl	Br	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Br	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Br	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	Br	Cl	Me	Cl	I	Cl	Me	Cl	CF_3	Cl
Et	Cl	Br	Cl	Et	Cl	I	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	I	Br	Me	Cl	I	Br	Me	Br	F	Cl
Et	Cl	I	Br	Et	Cl	I	Br	Et	Br	F	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	I	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	I	Br	*t*-Bu	Br	F	Cl
Me	Cl	I	Cl	Me	Cl	CF_3	Cl	Me	Br	F	Br
Et	Cl	I	Cl	Et	Cl	CF_3	Cl	Et	Br	F	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Br	F	Br
Me	Cl	CF_3	Br	Me	Cl	CF_3	Br	Me	Br	Cl	Cl
Et	Cl	CF_3	Br	Et	Cl	CF_3	Br	Et	Br	Cl	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	Cl	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	Cl	Cl
Me	Cl	CF_3	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	Cl	Br
Et	Cl	CF_3	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	Cl	Br
i-Pr	Cl	CF_3	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	Cl	Br
t-Bu	Cl	CF_3	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	Cl	Br
Me	Br	F	Cl	Me	Br	F	Cl	Me	Br	Br	Cl
Et	Br	F	Cl	Et	Br	F	Cl	Et	Br	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Br	F	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Br	Cl
t-Bu	Br	F	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Br	Cl
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	F	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Br	Br
Me	Br	Cl	Cl	Me	Br	Cl	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Cl	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Cl	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Cl	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	I	Br
Me	Br	Br	Cl	Me	Br	Br	Cl	Me	Br	CF_3	Cl
Et	Br	Br	Cl	Et	Br	Br	Cl	Et	Br	CF_3	Cl
i-Pr	Br	Br	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	Br	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF_3	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF_3	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	CF_3	Br
Me	Br	I	Cl	Me	Br	I	Cl	Me	Cl	Cl	Br
Et	Br	I	Cl	Et	Br	I	Cl	Et	Cl	Cl	Br
i-Pr	Br	I	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Cl	Cl	Br
t-Bu	Br	I	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Cl	Cl	Br
Me	Br	I	Br	Me	Br	I	Br	Me	Cl	Cl	Cl
Et	Br	I	Br	Et	Br	I	Br	Et	Cl	Cl	Cl
i-Pr	Br	I	Br	*i*-Pr	Br	I	Br	*i*-Pr	Cl	Cl	Cl
t-Bu	Br	I	Br	*t*-Bu	Br	I	Br	*t*-Bu	Cl	Cl	Cl

Table 23



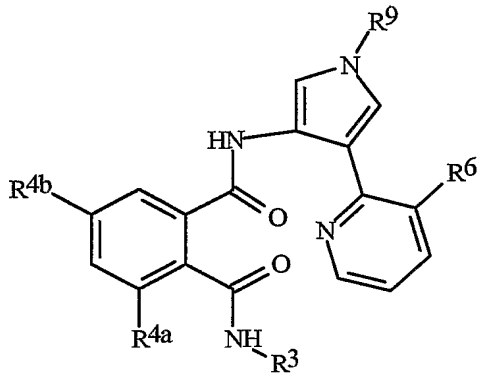
R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	H	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	H	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	H	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	F	Cl	Me	CH_3	F	Cl	Me	CH_3	F	Cl
Et	CH_3	F	Cl	Et	CH_3	F	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	F	Br	Me	CH_3	F	Br	Me	CH_3	F	Br
Et	CH_3	F	Br	Et	CH_3	F	Br	Et	CH_3	F	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	F	Br
Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Cl	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Cl	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	Br	Cl	Me	CH_3	Br	Cl	Me	CH_3	Br	Cl
Et	CH_3	Br	Cl	Et	CH_3	Br	Cl	Et	CH_3	Br	Cl
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	Br	Br	Me	CH_3	Br	Br	Me	CH_3	Br	Br
Et	CH_3	Br	Br	Et	CH_3	Br	Br	Et	CH_3	Br	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	I	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	I	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	I	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	F	Br	Me	Cl	H	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	F	Br	Et	Cl	H	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	H	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	H	Br
Me	Cl	F	Cl	Me	Cl	F	Cl	Me	Cl	H	Cl
Et	Cl	F	Cl	Et	Cl	F	Cl	Et	Cl	H	Cl
i-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	F	Br	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	F	Br	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	F	Br	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	F	Br	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	Cl	Cl	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	Cl	Cl	Et	Cl	Cl	Cl	Et	Cl	I	Cl
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Br	Me	Cl	H	Br	Me	Cl	F	Br
Et	Cl	H	Br	Et	Cl	H	Br	Et	Cl	F	Br
i-Pr	Cl	H	Br	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Br	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	F	Br
Me	Cl	H	Cl	Me	Cl	H	Cl	Me	Cl	F	Cl
Et	Cl	H	Cl	Et	Cl	H	Cl	Et	Cl	F	Cl
i-Pr	Cl	H	Cl	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	H	Cl	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	Br	Br	Me	Cl	Br	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Br	Et	Cl	Br	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Br	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Br	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	Br	Cl	Me	Cl	I	Cl	Me	Cl	CF_3	Cl
Et	Cl	Br	Cl	Et	Cl	I	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	I	Br	Me	Cl	I	Br	Me	Br	F	Cl
Et	Cl	I	Br	Et	Cl	I	Br	Et	Br	F	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	I	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	I	Br	*t*-Bu	Br	F	Cl
Me	Cl	I	Cl	Me	Cl	CF_3	Cl	Me	Br	F	Br
Et	Cl	I	Cl	Et	Cl	CF_3	Cl	Et	Br	F	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Br	F	Br
Me	Cl	CF_3	Br	Me	Cl	CF_3	Br	Me	Br	Cl	Cl
Et	Cl	CF_3	Br	Et	Cl	CF_3	Br	Et	Br	Cl	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	Cl	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	Cl	Cl
Me	Cl	CF_3	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	Cl	Br
Et	Cl	CF_3	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	Cl	Br
i-Pr	Cl	CF_3	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	Cl	Br
t-Bu	Cl	CF_3	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	Cl	Br
Me	Br	F	Cl	Me	Br	F	Cl	Me	Br	Br	Cl
Et	Br	F	Cl	Et	Br	F	Cl	Et	Br	Br	Cl
i-Pr	Br	F	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Br	Cl

R^9 is CHF_2				R^9 is CH_2CF_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Br	F	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Br	Cl
Me	Br	F	Br	Me	Br	F	Br	Me	Br	Br	Br
Et	Br	F	Br	Et	Br	F	Br	Et	Br	Br	Br
i-Pr	Br	F	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	F	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Br	Br
Me	Br	Cl	Cl	Me	Br	Cl	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Cl	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Cl	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Cl	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	I	Br
Me	Br	Br	Cl	Me	Br	Br	Cl	Me	Br	CF_3	Cl
Et	Br	Br	Cl	Et	Br	Br	Cl	Et	Br	CF_3	Cl
i-Pr	Br	Br	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	Br	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	Br	Br	Me	Br	Br	Br	Me	Br	CF_3	Br
Et	Br	Br	Br	Et	Br	Br	Br	Et	Br	CF_3	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	CF_3	Br
Me	Br	I	Cl	Me	Br	I	Cl	Me	Cl	Cl	Br
Et	Br	I	Cl	Et	Br	I	Cl	Et	Cl	Cl	Br
i-Pr	Br	I	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Cl	Cl	Br
t-Bu	Br	I	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Cl	Cl	Br
Me	Br	I	Br	Me	Br	I	Br	Me	Cl	Cl	Cl
Et	Br	I	Br	Et	Br	I	Br	Et	Cl	Cl	Cl
i-Pr	Br	I	Br	*i*-Pr	Br	I	Br	*i*-Pr	Cl	Cl	Cl
t-Bu	Br	I	Br	*t*-Bu	Br	I	Br	*t*-Bu	Cl	Cl	Cl

Table 24



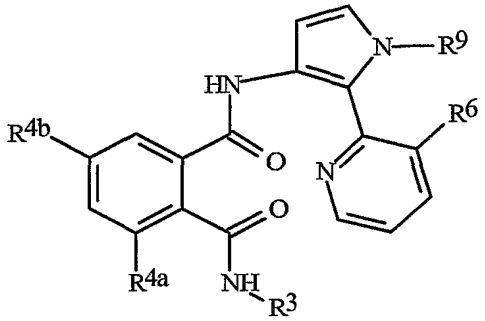
R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	Br	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	Br	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	Br	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	Br	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	Br	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	F	Cl	Me	CH_3	Br	Cl	Me	CH_3	I	Cl
Et	CH_3	F	Cl	Et	CH_3	Br	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	F	Br	Me	CH_3	Br	Br	Me	CH_3	I	Br
Et	CH_3	F	Br	Et	CH_3	Br	Br	Et	CH_3	I	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	Cl	Cl	Me	CH_3	F	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	Cl	Cl	Et	CH_3	F	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	Cl	Br	Me	CH_3	F	Br	Me	CH_3	CF_3	Br
Et	CH_3	Cl	Br	Et	CH_3	F	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	CF_3	Br
Me	CH_3	Br	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Br	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Br	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Br	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	H	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	H	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	H	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	F	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	F	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	F	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	F	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	H	Br	Me	Cl	Cl	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	H	Br	Et	Cl	Cl	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Br
Me	Cl	I	Br	Me	Cl	H	Cl	Me	Cl	Cl	Cl
Et	Cl	I	Br	Et	Cl	H	Cl	Et	Cl	Cl	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	Cl	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	Cl	Cl
Me	Cl	I	Cl	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	I	Cl	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	H	Br	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	H	Br	Et	Cl	Cl	Cl	Et	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl
t-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Cl	Me	Cl	F	Br	Me	Cl	F	Br
Et	Cl	H	Cl	Et	Cl	F	Br	Et	Cl	F	Br
i-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	F	Br
Me	Cl	CF_3	Br	Me	Cl	F	Cl	Me	Cl	F	Cl
Et	Cl	CF_3	Br	Et	Cl	F	Cl	Et	Cl	F	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	CF_3	Cl	Me	Cl	Br	Br	Me	Cl	H	Br
Et	Cl	CF_3	Cl	Et	Cl	Br	Br	Et	Cl	H	Br
i-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	H	Br
t-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	H	Br
Me	Cl	Br	Br	Me	Cl	I	Cl	Me	Cl	H	Cl
Et	Cl	Br	Br	Et	Cl	I	Cl	Et	Cl	H	Cl
i-Pr	Cl	Br	Br	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	Br	Br	*t*-Bu	Cl	I	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	Br	Cl	Me	Cl	I	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Cl	Et	Cl	I	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	F	Br	Me	Cl	CF_3	Cl	Me	Cl	CF_3	Cl
Et	Cl	F	Br	Et	Cl	CF_3	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	F	Br	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	F	Br	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	Cl	Cl	Me	Cl	CF_3	Br	Me	Br	F	Cl
Et	Cl	Cl	Cl	Et	Cl	CF_3	Br	Et	Br	F	Cl
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	F	Cl
Me	Cl	F	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	F	Br
Et	Cl	F	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	F	Br
i-Pr	Cl	F	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	F	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	Cl	Me	Br	Cl	Cl
Et	Br	Br	Cl	Et	Br	F	Cl	Et	Br	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
i-Pr	Br	Br	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Cl	Cl
t-Bu	Br	Br	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Cl	Cl
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	Cl	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Cl	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Cl	Br
Me	Br	I	Cl	Me	Br	Cl	Cl	Me	Br	Br	Cl
Et	Br	I	Cl	Et	Br	Cl	Cl	Et	Br	Br	Cl
i-Pr	Br	I	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl
t-Bu	Br	I	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl
Me	Br	I	Br	Me	Br	Cl	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	Cl	Br	Et	Br	Br	Br
i-Pr	Br	I	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	I	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br
Me	Br	F	Cl	Me	Br	I	Cl	Me	Br	CF_3	Cl
Et	Br	F	Cl	Et	Br	I	Cl	Et	Br	CF_3	Cl
i-Pr	Br	F	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	F	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF_3	Br
Et	Br	F	Br	Et	Br	I	Br	Et	Br	CF_3	Br
i-Pr	Br	F	Br	*i*-Pr	Br	I	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	F	Br	*t*-Bu	Br	I	Br	*t*-Bu	Br	CF_3	Br
Me	Br	Cl	Cl	Me	Br	Br	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Br	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Br	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	I	Br

Table 25



R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
Me	CH_3	H	Cl	Me	CH_3	H	Cl	Me	CH_3	Br	Cl
Et	CH_3	H	Cl	Et	CH_3	H	Cl	Et	CH_3	Br	Cl
i-Pr	CH_3	H	Cl	*i*-Pr	CH_3	H	Cl	*i*-Pr	CH_3	Br	Cl
t-Bu	CH_3	H	Cl	*t*-Bu	CH_3	H	Cl	*t*-Bu	CH_3	Br	Cl
Me	CH_3	H	Br	Me	CH_3	H	Br	Me	CH_3	Br	Br
Et	CH_3	H	Br	Et	CH_3	H	Br	Et	CH_3	Br	Br
i-Pr	CH_3	H	Br	*i*-Pr	CH_3	H	Br	*i*-Pr	CH_3	Br	Br
t-Bu	CH_3	H	Br	*t*-Bu	CH_3	H	Br	*t*-Bu	CH_3	Br	Br
Me	CH_3	F	Cl	Me	CH_3	Br	Cl	Me	CH_3	I	Cl
Et	CH_3	F	Cl	Et	CH_3	Br	Cl	Et	CH_3	I	Cl
i-Pr	CH_3	F	Cl	*i*-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	I	Cl
t-Bu	CH_3	F	Cl	*t*-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	I	Cl
Me	CH_3	F	Br	Me	CH_3	Br	Br	Me	CH_3	I	Br
Et	CH_3	F	Br	Et	CH_3	Br	Br	Et	CH_3	I	Br
i-Pr	CH_3	F	Br	*i*-Pr	CH_3	Br	Br	*i*-Pr	CH_3	I	Br
t-Bu	CH_3	F	Br	*t*-Bu	CH_3	Br	Br	*t*-Bu	CH_3	I	Br
Me	CH_3	Cl	Cl	Me	CH_3	F	Cl	Me	CH_3	CF_3	Cl
Et	CH_3	Cl	Cl	Et	CH_3	F	Cl	Et	CH_3	CF_3	Cl
i-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	F	Cl	*i*-Pr	CH_3	CF_3	Cl
t-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	F	Cl	*t*-Bu	CH_3	CF_3	Cl
Me	CH_3	Cl	Br	Me	CH_3	F	Br	Me	CH_3	CF_3	Br
Et	CH_3	Cl	Br	Et	CH_3	F	Br	Et	CH_3	CF_3	Br
i-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	F	Br	*i*-Pr	CH_3	CF_3	Br
t-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	F	Br	*t*-Bu	CH_3	CF_3	Br
Me	CH_3	Br	Cl	Me	CH_3	Cl	Cl	Me	CH_3	Cl	Cl
Et	CH_3	Br	Cl	Et	CH_3	Cl	Cl	Et	CH_3	Cl	Cl
i-Pr	CH_3	Br	Cl	*i*-Pr	CH_3	Cl	Cl	*i*-Pr	CH_3	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	CH_3	Br	Cl	*t*-Bu	CH_3	Cl	Cl	*t*-Bu	CH_3	Cl	Cl
Me	CH_3	Br	Br	Me	CH_3	Cl	Br	Me	CH_3	Cl	Br
Et	CH_3	Br	Br	Et	CH_3	Cl	Br	Et	CH_3	Cl	Br
i-Pr	CH_3	Br	Br	*i*-Pr	CH_3	Cl	Br	*i*-Pr	CH_3	Cl	Br
t-Bu	CH_3	Br	Br	*t*-Bu	CH_3	Cl	Br	*t*-Bu	CH_3	Cl	Br
Me	CH_3	I	Cl	Me	CH_3	I	Cl	Me	CH_3	H	Cl
Et	CH_3	I	Cl	Et	CH_3	I	Cl	Et	CH_3	H	Cl
i-Pr	CH_3	I	Cl	*i*-Pr	CH_3	I	Cl	*i*-Pr	CH_3	H	Cl
t-Bu	CH_3	I	Cl	*t*-Bu	CH_3	I	Cl	*t*-Bu	CH_3	H	Cl
Me	CH_3	I	Br	Me	CH_3	I	Br	Me	CH_3	H	Br
Et	CH_3	I	Br	Et	CH_3	I	Br	Et	CH_3	H	Br
i-Pr	CH_3	I	Br	*i*-Pr	CH_3	I	Br	*i*-Pr	CH_3	H	Br
t-Bu	CH_3	I	Br	*t*-Bu	CH_3	I	Br	*t*-Bu	CH_3	H	Br
Me	CH_3	CF_3	Cl	Me	CH_3	CF_3	Cl	Me	CH_3	F	Cl
Et	CH_3	CF_3	Cl	Et	CH_3	CF_3	Cl	Et	CH_3	F	Cl
i-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	CF_3	Cl	*i*-Pr	CH_3	F	Cl
t-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	CF_3	Cl	*t*-Bu	CH_3	F	Cl
Me	CH_3	CF_3	Br	Me	CH_3	CF_3	Br	Me	CH_3	F	Br
Et	CH_3	CF_3	Br	Et	CH_3	CF_3	Br	Et	CH_3	F	Br
i-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	CF_3	Br	*i*-Pr	CH_3	F	Br
t-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	CF_3	Br	*t*-Bu	CH_3	F	Br
n-Pr	CH_3	Cl	Cl	Me	Cl	H	Br	Me	Cl	Cl	Br
n-Bu	CH_3	Cl	Cl	Et	Cl	H	Br	Et	Cl	Cl	Br
s-Bu	CH_3	Cl	Cl	*i*-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Br
i-Bu	CH_3	Cl	Cl	*t*-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Br
Me	Cl	I	Br	Me	Cl	H	Cl	Me	Cl	Cl	Cl
Et	Cl	I	Br	Et	Cl	H	Cl	Et	Cl	Cl	Cl
i-Pr	Cl	I	Br	*i*-Pr	Cl	H	Cl	*i*-Pr	Cl	Cl	Cl
t-Bu	Cl	I	Br	*t*-Bu	Cl	H	Cl	*t*-Bu	Cl	Cl	Cl
Me	Cl	I	Cl	Me	Cl	Cl	Br	Me	Cl	I	Br
Et	Cl	I	Cl	Et	Cl	Cl	Br	Et	Cl	I	Br
i-Pr	Cl	I	Cl	*i*-Pr	Cl	Cl	Br	*i*-Pr	Cl	I	Br
t-Bu	Cl	I	Cl	*t*-Bu	Cl	Cl	Br	*t*-Bu	Cl	I	Br
Me	Cl	H	Br	Me	Cl	Cl	Cl	Me	Cl	I	Cl
Et	Cl	H	Br	Et	Cl	Cl	Cl	Et	Cl	I	Cl
i-Pr	Cl	H	Br	*i*-Pr	Cl	Cl	Cl	*i*-Pr	Cl	I	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Cl	H	Br	*t*-Bu	Cl	Cl	Cl	*t*-Bu	Cl	I	Cl
Me	Cl	H	Cl	Me	Cl	F	Br	Me	Cl	F	Br
Et	Cl	H	Cl	Et	Cl	F	Br	Et	Cl	F	Br
i-Pr	Cl	H	Cl	*i*-Pr	Cl	F	Br	*i*-Pr	Cl	F	Br
t-Bu	Cl	H	Cl	*t*-Bu	Cl	F	Br	*t*-Bu	Cl	F	Br
Me	Cl	CF_3	Br	Me	Cl	F	Cl	Me	Cl	F	Cl
Et	Cl	CF_3	Br	Et	Cl	F	Cl	Et	Cl	F	Cl
i-Pr	Cl	CF_3	Br	*i*-Pr	Cl	F	Cl	*i*-Pr	Cl	F	Cl
t-Bu	Cl	CF_3	Br	*t*-Bu	Cl	F	Cl	*t*-Bu	Cl	F	Cl
Me	Cl	CF_3	Cl	Me	Cl	Br	Br	Me	Cl	H	Br
Et	Cl	CF_3	Cl	Et	Cl	Br	Br	Et	Cl	H	Br
i-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	Br	Br	*i*-Pr	Cl	H	Br
t-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	Br	Br	*t*-Bu	Cl	H	Br
Me	Cl	Br	Br	Me	Cl	I	Cl	Me	Cl	H	Cl
Et	Cl	Br	Br	Et	Cl	I	Cl	Et	Cl	H	Cl
i-Pr	Cl	Br	Br	*i*-Pr	Cl	I	Cl	*i*-Pr	Cl	H	Cl
t-Bu	Cl	Br	Br	*t*-Bu	Cl	I	Cl	*i*-Pr	Cl	H	Cl
Me	Cl	Br	Cl	Me	Cl	I	Br	Me	Cl	CF_3	Br
Et	Cl	Br	Cl	Et	Cl	I	Br	Et	Cl	CF_3	Br
i-Pr	Cl	Br	Cl	*i*-Pr	Cl	I	Br	*i*-Pr	Cl	CF_3	Br
t-Bu	Cl	Br	Cl	*t*-Bu	Cl	I	Br	*t*-Bu	Cl	CF_3	Br
Me	Cl	F	Br	Me	Cl	CF_3	Cl	Me	Cl	CF_3	Cl
Et	Cl	F	Br	Et	Cl	CF_3	Cl	Et	Cl	CF_3	Cl
i-Pr	Cl	F	Br	*i*-Pr	Cl	CF_3	Cl	*i*-Pr	Cl	CF_3	Cl
t-Bu	Cl	F	Br	*t*-Bu	Cl	CF_3	Cl	*t*-Bu	Cl	CF_3	Cl
Me	Cl	Cl	Cl	Me	Cl	CF_3	Br	Me	Br	F	Cl
Et	Cl	Cl	Cl	Et	Cl	CF_3	Br	Et	Br	F	Cl
i-Pr	Cl	Cl	Cl	*i*-Pr	Cl	CF_3	Br	*i*-Pr	Br	F	Cl
t-Bu	Cl	Cl	Cl	*t*-Bu	Cl	CF_3	Br	*t*-Bu	Br	F	Cl
Me	Cl	F	Cl	*n*-Pr	Cl	Cl	Cl	Me	Br	F	Br
Et	Cl	F	Cl	*n*-Bu	Cl	Cl	Cl	Et	Br	F	Br
i-Pr	Cl	F	Cl	*s*-Bu	Cl	Cl	Cl	*i*-Pr	Br	F	Br
t-Bu	Cl	F	Cl	*i*-Bu	Cl	Cl	Cl	*t*-Bu	Br	F	Br
Me	Br	Br	Cl	Me	Br	F	Cl	Me	Br	Cl	Cl
Et	Br	Br	Cl	Et	Br	F	Cl	Et	Br	Cl	Cl
i-Pr	Br	Br	Cl	*i*-Pr	Br	F	Cl	*i*-Pr	Br	Cl	Cl

R^9 is CHF_2				R^9 is CH_2F_3				R^9 is CF_2CHF_2			
R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6	R^3	R^{4a}	R^{4b}	R^6
t-Bu	Br	Br	Cl	*t*-Bu	Br	F	Cl	*t*-Bu	Br	Cl	Cl
Me	Br	Br	Br	Me	Br	F	Br	Me	Br	Cl	Br
Et	Br	Br	Br	Et	Br	F	Br	Et	Br	Cl	Br
i-Pr	Br	Br	Br	*i*-Pr	Br	F	Br	*i*-Pr	Br	Cl	Br
t-Bu	Br	Br	Br	*t*-Bu	Br	F	Br	*t*-Bu	Br	Cl	Br
Me	Br	I	Cl	Me	Br	Cl	Cl	Me	Br	Br	Cl
Et	Br	I	Cl	Et	Br	Cl	Cl	Et	Br	Br	Cl
i-Pr	Br	I	Cl	*i*-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl
t-Bu	Br	I	Cl	*t*-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl
Me	Br	I	Br	Me	Br	Cl	Br	Me	Br	Br	Br
Et	Br	I	Br	Et	Br	Cl	Br	Et	Br	Br	Br
i-Pr	Br	I	Br	*i*-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br
t-Bu	Br	I	Br	*t*-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br
Me	Br	F	Cl	Me	Br	I	Cl	Me	Br	CF_3	Cl
Et	Br	F	Cl	Et	Br	I	Cl	Et	Br	CF_3	Cl
i-Pr	Br	F	Cl	*i*-Pr	Br	I	Cl	*i*-Pr	Br	CF_3	Cl
t-Bu	Br	F	Cl	*t*-Bu	Br	I	Cl	*t*-Bu	Br	CF_3	Cl
Me	Br	F	Br	Me	Br	I	Br	Me	Br	CF_3	Br
Et	Br	F	Br	Et	Br	I	Br	Et	Br	CF_3	Br
i-Pr	Br	F	Br	*i*-Pr	Br	I	Br	*i*-Pr	Br	CF_3	Br
t-Bu	Br	F	Br	*t*-Bu	Br	I	Br	*t*-Bu	Br	CF_3	Br
Me	Br	Cl	Cl	Me	Br	Br	Cl	Me	Br	I	Cl
Et	Br	Cl	Cl	Et	Br	Br	Cl	Et	Br	I	Cl
i-Pr	Br	Cl	Cl	*i*-Pr	Br	Br	Cl	*i*-Pr	Br	I	Cl
t-Bu	Br	Cl	Cl	*t*-Bu	Br	Br	Cl	*t*-Bu	Br	I	Cl
Me	Br	Cl	Br	Me	Br	Br	Br	Me	Br	I	Br
Et	Br	Cl	Br	Et	Br	Br	Br	Et	Br	I	Br
i-Pr	Br	Cl	Br	*i*-Pr	Br	Br	Br	*i*-Pr	Br	I	Br
t-Bu	Br	Cl	Br	*t*-Bu	Br	Br	Br	*t*-Bu	Br	I	Br

Formulation/Utility

Compounds of this invention will generally be used as a formulation or composition with an agriculturally suitable carrier comprising at least one of a liquid diluent, a solid diluent or a surfactant. The formulation or composition ingredients are selected to be consistent with the physical properties of the active ingredient, mode of application and

environmental factors such as soil type, moisture and temperature. Useful formulations include liquids such as solutions (including emulsifiable concentrates), suspensions, emulsions (including microemulsions and/or suspoemulsions) and the like which optionally can be thickened into gels. Useful formulations further include solids such as dusts, powders, granules, pellets, tablets, films, and the like which can be water-dispersible ("wettable") or water-soluble. Active ingredient can be (micro)encapsulated and further formed into a suspension or solid formulation; alternatively the entire formulation of active ingredient can be encapsulated (or "overcoated"). Encapsulation can control or delay release of the active ingredient. Sprayable formulations can be extended in suitable media and used at spray volumes from about one to several hundred liters per hectare. High-strength compositions are primarily used as intermediates for further formulation.

The formulations will typically contain effective amounts of active ingredient, diluent and surfactant within the following approximate ranges that add up to 100 percent by weight.

	Weight Percent		
	Active Ingredient	Diluent	Surfactant
Water-Dispersible and Water-soluble Granules, Tablets and Powders.	5–90	0–94	1–15
Suspensions, Emulsions, Solutions (including Emulsifiable Concentrates)	5–50	40–95	0–15
Dusts	1–25	70–99	0–5
Granules and Pellets	0.01–99	5–99.99	0–15
High Strength Compositions	90–99	0–10	0–2

Typical solid diluents are described in Watkins, et al., *Handbook of Insecticide Dust Diluents and Carriers*, 2nd Ed., Dorland Books, Caldwell, New Jersey. Typical liquid diluents are described in Marsden, *Solvents Guide*, 2nd Ed., Interscience, New York, 1950. *McCutcheon's Detergents and Emulsifiers Annual*, Allured Publ. Corp., Ridgewood, New Jersey, as well as Sisely and Wood, *Encyclopedia of Surface Active Agents*, Chemical Publ. Co., Inc., New York, 1964, list surfactants and recommended uses. All formulations can contain minor amounts of additives to reduce foam, caking, corrosion, microbiological growth and the like, or thickeners to increase viscosity.

Surfactants include, for example, polyethoxylated alcohols, polyethoxylated alkylphenols, polyethoxylated sorbitan fatty acid esters, dialkyl sulfosuccinates, alkyl sulfates, alkylbenzene sulfonates, organosilicones, *N,N*-dialkyltaurates, lignin sulfonates, naphthalene sulfonate formaldehyde condensates, polycarboxylates, and polyoxyethylene/polyoxypropylene block copolymers. Solid diluents include, for example, clays such as bentonite, montmorillonite, attapulgite and kaolin, starch, sugar, silica, talc, diatomaceous earth, urea, calcium carbonate, sodium carbonate and bicarbonate, and sodium

sulfate. Liquid diluents include, for example, water, *N,N*-dimethylformamide, dimethyl sulfoxide, *N*-alkylpyrrolidone, ethylene glycol, polypropylene glycol, propylene carbonate, dibasic esters, paraffins, alkylbenzenes, alkylnaphthalenes, oils of olive, castor, linseed, tung, sesame, corn, peanut, cotton-seed, soybean, rape-seed and coconut, fatty acid esters, ketones such as cyclohexanone, 2-heptanone, isophorone and 4-hydroxy-4-methyl-2-pentanone, and alcohols such as methanol, cyclohexanol, decanol, benzyl and tetrahydrofurfuryl alcohol.

Solutions, including emulsifiable concentrates, can be prepared by simply mixing the ingredients. Dusts and powders can be prepared by blending and, usually, grinding as in a hammer mill or fluid-energy mill. Suspensions are usually prepared by wet-milling; see, for example, U.S. 3,060,084. Granules and pellets can be prepared by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", *Chemical Engineering*, December 4, 1967, pp 147–48, *Perry's Chemical Engineer's Handbook*, 4th Ed., McGraw-Hill, New York, 1963, pages 8–57 and following, and PCT Publication WO 91/13546. Pellets can be prepared as described in U.S. 4,172,714. Water-dispersible and water-soluble granules can be prepared as taught in U.S. 4,144,050, U.S. 3,920,442 and DE 3,246,493. Tablets can be prepared as taught in U.S. 5,180,587, U.S. 5,232,701 and U.S. 5,208,030. Films can be prepared as taught in GB 2,095,558 and U.S. 3,299,566.

For further information regarding the art of formulation, see T. S. Woods, "The Formulator's Toolbox – Product Forms for Modern Agriculture" in *Pesticide Chemistry and Bioscience, The Food–Environment Challenge*, T. Brooks and T. R. Roberts, Eds., Proceedings of the 9th International Congress on Pesticide Chemistry, The Royal Society of Chemistry, Cambridge, 1999, pp. 120–133. See also U.S. 3,235,361, Col. 6, line 16 through Col. 7, line 19 and Examples 10–41; U.S. 3,309,192, Col. 5, line 43 through Col. 7, line 62 and Examples 8, 12, 15, 39, 41, 52, 53, 58, 132, 138–140, 162–164, 166, 167 and 169–182; U.S. 2,891,855, Col. 3, line 66 through Col. 5, line 17 and Examples 1–4; Klingman, *Weed Control as a Science*, John Wiley and Sons, Inc., New York, 1961, pp 81–96; and Hance et al., *Weed Control Handbook*, 8th Ed., Blackwell Scientific Publications, Oxford, 1989.

In the following Examples, all percentages are by weight and all formulations are prepared in conventional ways. Compound numbers refer to compounds in Index Table A.

Example A

Wettable Powder

Compound 6	65.0%
dodecylphenol polyethylene glycol ether	2.0%
sodium ligninsulfonate	4.0%
sodium silicoaluminate	6.0%
montmorillonite (calcined)	23.0%.

Example B

Granule

Compound 6	10.0%
attapulgite granules (low volatile matter, 0.71/0.30 mm; U.S.S. No. 25–50 sieves)	90.0%.

Example C

Extruded Pellet

Compound 6	25.0%
anhydrous sodium sulfate	10.0%
crude calcium ligninsulfonate	5.0%
sodium alkylnaphthalenesulfonate	1.0%
calcium/magnesium bentonite	59.0%.

Example D

Emulsifiable Concentrate

Compound 6	20.0%
blend of oil soluble sulfonates and polyoxyethylene ethers	10.0%
isophorone	70.0%.

Compounds of this invention are characterized by favorable metabolic and/or soil residual patterns and exhibit activity controlling a spectrum of agronomic and non-agronomic invertebrate pests. (In the context of this disclosure "invertebrate pest control" means inhibition of invertebrate pest development (including mortality) that causes significant reduction in feeding or other injury or other damage caused by the pest; related expressions are defined analogously.) As referred to in this disclosure, the term "invertebrate pest" includes arthropods, gastropods and nematodes of economic importance as pests. The term "arthropod" includes insects, mites, spiders, scorpions, centipedes, millipedes, pill bugs and symphylans. The term "gastropod" includes snails, slugs and other Stylommatophora. The term "nematode" includes all of the helminths, such as: roundworms, heartworms, and phytophagous nematodes (Nematoda), flukes (Tematoda), Acanthocephala, and tapeworms (Cestoda). Those skilled in the art will recognize that not all compounds are equally effective against all pests. Compounds of this invention display activity against economically important agronomic, forest, greenhouse, nursery, ornamentals, food and fiber, public and animal health, domestic and commercial structure, household, and stored product pests. These include larvae of the order Lepidoptera, such as armyworms, cutworms, loopers, and heliothines in the family Noctuidae (e.g., fall armyworm (*Spodoptera fugiperda* J. E. Smith), beet armyworm (*Spodoptera exigua* Hübner), black cutworm (*Agrotis ipsilon* Hufnagel), cabbage looper (*Trichoplusia ni*

Hübner), tobacco budworm (*Heliothis virescens* Fabricius)); borers, casebearers, webworms, coneworms, cabbageworms and skeletonizers from the family Pyralidae (e.g., European corn borer (*Ostrinia nubilalis* Hübner), navel orangeworm (*Amyelois transitella* Walker), corn root webworm (*Crambus caliginosellus* Clemens), sod webworm (*Herpetogramma licarsisalis* Walker)); leafrollers, budworms, seed worms, and fruit worms in the family Tortricidae (e.g., codling moth (*Cydia pomonella* Linnaeus), grape berry moth (*Endopiza viteana* Clemens), oriental fruit moth (*Grapholita molesta* Busck)); and many other economically important lepidoptera (e.g., diamondback moth (*Plutella xylostella* Linnaeus), pink bollworm (*Pectinophora gossypiella* Saunders), gypsy moth (*Lymantria dispar* Linnaeus)); nymphs and adults of the order Blattodea including cockroaches from the families Blattellidae and Blattidae (e.g., oriental cockroach (*Blatta orientalis* Linnaeus), Asian cockroach (*Blatella asahinai* Mizukubo), German cockroach (*Blattella germanica* Linnaeus), brownbanded cockroach (*Supella longipalpa* Fabricius), American cockroach (*Periplaneta americana* Linnaeus), brown cockroach (*Periplaneta brunnea* Burmeister), Madeira cockroach (*Leucophaea maderae* Fabricius)); foliar feeding larvae and adults of the order Coleoptera including weevils from the families Anthribidae, Bruchidae, and Curculionidae (e.g., boll weevil (*Anthonomus grandis* Boheman), rice water weevil (*Lissorhoptrus oryzophilus* Kuschel), granary weevil (*Sitophilus granarius* Linnaeus), rice weevil (*Sitophilus oryzae* Linnaeus)); flea beetles, cucumber beetles, rootworms, leaf beetles, potato beetles, and leafminers in the family Chrysomelidae (e.g., Colorado potato beetle (*Leptinotarsa decemlineata* Say), western corn rootworm (*Diabrotica virgifera virgifera* LeConte)); chafers and other beetles from the family Scaribaeidae (e.g., Japanese beetle (*Popillia japonica* Newman) and European chafer (*Rhizotrogus majalis* Razoumowsky)); carpet beetles from the family Dermestidae; wireworms from the family Elateridae; bark beetles from the family Scolytidae and flour beetles from the family Tenebrionidae. In addition it includes: adults and larvae of the order Dermaptera including earwigs from the family Forficulidae (e.g., European earwig (*Forficula auricularia* Linnaeus), black earwig (*Chelisoches morio* Fabricius)); adults and nymphs of the orders Hemiptera and Homoptera such as, plant bugs from the family Miridae, cicadas from the family Cicadidae, leafhoppers (e.g. *Empoasca* spp.) from the family Cicadellidae, planthoppers from the families Fulgoroidae and Delphacidae, treehoppers from the family Membracidae, psyllids from the family Psyllidae, whiteflies from the family Aleyrodidae, aphids from the family Aphididae, phylloxera from the family Phylloxeridae, mealybugs from the family Pseudococcidae, scales from the families Coccidae, Diaspididae and Margarodidae, lace bugs from the family Tingidae, stink bugs from the family Pentatomidae, cinch bugs (e.g., *Blissus* spp.) and other seed bugs from the family Lygaeidae, spittlebugs from the family Cercopidae squash bugs from the family Coreidae, and red bugs and cotton stainers from the family Pyrrhocoridae. Also included are adults and larvae of the order

Acari (mites) such as spider mites and red mites in the family Tetranychidae (e.g., European red mite (*Panonychus ulmi* Koch), two spotted spider mite (*Tetranychus urticae* Koch), McDaniel mite (*Tetranychus mcdanieli* McGregor)), flat mites in the family Tenuipalpidae (e.g., citrus flat mite (*Brevipalpus lewisi* McGregor)), rust and bud mites in the family Eriophyidae and other foliar feeding mites and mites important in human and animal health, i.e. dust mites in the family Epidermoptidae, follicle mites in the family Demodicidae, grain mites in the family Glycyphagidae, ticks in the order Ixodidae (e.g., deer tick (*Ixodes scapularis* Say), Australian paralysis tick (*Ixodes holocyclus* Neumann), American dog tick (*Dermacentor variabilis* Say), lone star tick (*Amblyomma americanum* Linnaeus) and scab and itch mites in the families Psoroptidae, Pyemotidae, and Sarcoptidae; adults and immatures of the order Orthoptera including grasshoppers, locusts and crickets (e.g., migratory grasshoppers (e.g., *Melanoplus sanguinipes* Fabricius, *M. differentialis* Thomas), American grasshoppers (e.g., *Schistocerca americana* Drury), desert locust (*Schistocerca gregaria* Forskal), migratory locust (*Locusta migratoria* Linnaeus), house cricket (*Acheta domesticus* Linnaeus), mole crickets (*Gryllotalpa* spp.)); adults and immatures of the order Diptera including leafminers, midges, fruit flies (Tephritidae), frit flies (e.g., *Oscinella frit* Linnaeus), soil maggots, house flies (e.g., *Musca domestica* Linnaeus), lesser house flies (e.g., *Fannia canicularis* Linnaeus, *F. femoralis* Stein), stable flies (e.g., *Stomoxys calcitrans* Linnaeus), face flies, horn flies, blow flies (e.g., *Chrysomya* spp., *Phormia* spp.), and other muscoid fly pests, horse flies (e.g., *Tabanus* spp.), bot flies (e.g., *Gastrophilus* spp., *Oestrus* spp.), cattle grubs (e.g., *Hypoderma* spp.), deer flies (e.g., *Chrysops* spp.), keds (e.g., *Melophagus ovinus* Linnaeus) and other Brachycera, mosquitoes (e.g., *Aedes* spp., *Anopheles* spp., *Culex* spp.), black flies (e.g., *Prosimulium* spp., *Simulium* spp.), biting midges, sand flies, sciarids, and other Nematocera; adults and immatures of the order Thysanoptera including onion thrips (*Thrips tabaci* Lindeman) and other foliar feeding thrips; insect pests of the order Hymenoptera including ants (e.g., red carpenter ant (*Camponotus ferrugineus* Fabricius), black carpenter ant (*Camponotus pennsylvanicus* De Geer), Pharaoh ant (*Monomorium pharaonis* Linnaeus), little fire ant (*Wasmannia auropunctata* Roger), fire ant (*Solenopsis geminata* Fabricius), red imported fire ant (*Solenopsis invicta* Buren), Argentine ant (*Iridomyrmex humilis* Mayr), crazy ant (*Paratrechina longicornis* Latreille), pavement ant (*Tetramorium caespitum* Linnaeus), cornfield ant (*Lasius alienus* Förster), odorous house ant (*Tapinoma sessile* Say)), bees (including carpenter bees), hornets, yellow jackets and wasps; insect pests of the order Isoptera including the eastern subterranean termite (*Reticulitermes flavipes* Kollar), western subterranean termite (*Reticulitermes hesperus* Banks), Formosan subterranean termite (*Coptotermes formosanus* Shiraki), West Indian drywood termite (*Incisitermes immigrans* Snyder) and other termites of economic importance; insect pests of the order Thysanura such as silverfish (*Lepisma saccharina* Linnaeus) and firebrat (*Thermobia domestica* Packard);

insect pests of the order Mallophaga and including the head louse (*Pediculus humanus capitis* De Geer), body louse (*Pediculus humanus humanus* Linnaeus), chicken body louse (*Menacanthus stramineus* Nitszch), dog biting louse (*Trichodectes canis* De Geer), fluff louse (*Goniocotes gallinae* De Geer), sheep body louse (*Bovicola ovis* Schrank), short-nosed cattle louse (*Haematopinus eurysternus* Nitzsch), long-nosed cattle louse (*Linognathus vituli* Linnaeus) and other sucking and chewing parasitic lice that attack man and animals; insect pests of the order Siphonoptera including the oriental rat flea (*Xenopsylla cheopis* Rothschild), cat flea (*Ctenocephalides felis* Bouche), dog flea (*Ctenocephalides canis* Curtis), hen flea (*Ceratophyllus gallinae* Schrank), sticktight flea (*Echidnophaga gallinacea* Westwood), human flea (*Pulex irritans* Linnaeus) and other fleas afflicting mammals and birds. Additional arthropod pests covered include: spiders in the order Araneae such as the brown recluse spider (*Loxosceles reclusa* Gertsch & Mulaik) and the black widow spider (*Latrodectus mactans* Fabricius), and centipedes in the order Scutigeromorpha such as the house centipede (*Scutigera coleoptrata* Linnaeus). Activity also includes members of the Classes Nematoda, Cestoda, Trematoda, and Acanthocephala including economically important members of the orders Strongylida, Ascaridida, Oxyurida, Rhabditida, Spirurida, and Enoplida such as but not limited to economically important agricultural pests (i.e. root knot nematodes in the genus *Meloidogyne*, lesion nematodes in the genus *Pratylenchus*, stubby root nematodes in the genus *Trichodorus*, etc.) and animal and human health pests (i.e. all economically important flukes, tapeworms, and roundworms, such as *Strongylus vulgaris* in horses, *Toxocara canis* in dogs, *Haemonchus contortus* in sheep, *Dirofilaria immitis* Leidy in dogs, *Anoplocephala perfoliata* in horses, *Fasciola hepatica* Linnaeus in ruminants, etc.).

Compounds of the invention show particularly high activity against pests in the order Lepidoptera (e.g., *Alabama argillacea* Hübner (cotton leaf worm), *Archips argyrospila* Walker (fruit tree leaf roller), *A. rosana* Linnaeus (European leaf roller) and other *Archips* species, *Chilo suppressalis* Walker (rice stem borer), *Cnaphalocrosis medinalis* Guenee (rice leaf roller), *Crambus caliginosellus* Clemens (corn root webworm), *Crambus teterrellus* Zincken (bluegrass webworm), *Cydia pomonella* Linnaeus (codling moth), *Earias insulana* Boisduval (spiny bollworm), *Earias vittella* Fabricius (spotted bollworm), *Helicoverpa armigera* Hübner (American bollworm), *Helicoverpa zea* Boddie (corn earworm), *Heliothis virescens* Fabricius (tobacco budworm), *Herpetogramma licarsisalis* Walker (sod webworm), *Lobesia botrana* Denis & Schiffermüller (grape berry moth), *Pectinophora gossypiella* Saunders (pink bollworm), *Phyllocnistis citrella* Stainton (citrus leafminer), *Pieris brassicae* Linnaeus (large white butterfly), *Pieris rapae* Linnaeus (small white butterfly), *Plutella xylostella* Linnaeus (diamondback moth), *Spodoptera exigua* Hübner (beet armyworm), *Spodoptera litura* Fabricius (tobacco cutworm, cluster caterpillar), *Spodoptera frugiperda* J. E. Smith (fall armyworm), *Trichoplusia ni* Hübner (cabbage

looper) and *Tuta absoluta* Meyrick (tomato leafminer)). Compounds of the invention also have commercially significant activity on members from the order Homoptera including: *Acyrthisiphon pisum* Harris (pea aphid), *Aphis craccivora* Koch (cowpea aphid), *Aphis fabae* Scopoli (black bean aphid), *Aphis gossypii* Glover (cotton aphid, melon aphid), *Aphis pomi* De Geer (apple aphid), *Aphis spiraecola* Patch (spirea aphid), *Aulacorthum solani* Kaltenbach (foxglove aphid), *Chaetosiphon fragaefolii* Cockerell (strawberry aphid), *Diuraphis noxia* Kurdjumov/Mordvilko (Russian wheat aphid), *Dysaphis plantaginea* Paaserini (rosy apple aphid), *Eriosoma lanigerum* Hausmann (woolly apple aphid), *Hyalopterus pruni* Geoffroy (mealy plum aphid), *Lipaphis erysimi* Kaltenbach (turnip aphid), *Metopolophium dirrhodum* Walker (cereal aphid), *Macrosipum euphorbiae* Thomas (potato aphid), *Myzus persicae* Sulzer (peach-potato aphid, green peach aphid), *Nasonovia ribisnigri* Mosley (lettuce aphid), *Pemphigus* spp. (root aphids and gall aphids), *Rhopalosiphum maidis* Fitch (corn leaf aphid), *Rhopalosiphum padi* Linnaeus (bird cherry-oat aphid), *Schizaphis graminum* Rondani (greenbug), *Sitobion avenae* Fabricius (English grain aphid), *Therioaphis maculata* Buckton (spotted alfalfa aphid), *Toxoptera aurantii* Boyer de Fonscolombe (black citrus aphid), and *Toxoptera citricida* Kirkaldy (brown citrus aphid); *Adelges* spp. (adelgids); *Phylloxera devastatrix* Pergande (pecan phylloxera); *Bemisia tabaci* Gennadius (tobacco whitefly, sweetpotato whitefly), *Bemisia argentifolii* Bellows & Perring (silverleaf whitefly), *Dialeurodes citri* Ashmead (citrus whitefly) and *Trialeurodes vaporariorum* Westwood (greenhouse whitefly); *Empoasca fabae* Harris (potato leafhopper), *Laodelphax striatellus* Fallen (smaller brown planthopper), *Macrolestes quadrilineatus* Forbes (aster leafhopper), *Nephotettix cinticeps* Uhler (green leafhopper), *Nephotettix nigropictus* Stål (rice leafhopper), *Nilaparvata lugens* Stål (brown planthopper), *Peregrinus maidis* Ashmead (corn planthopper), *Sogatella furcifera* Horvath (white-backed planthopper), *Sogatodes orizicola* Muir (rice delphacid), *Typhlocyba pomaria* McAtee white apple leafhopper, *Erythroneoura* spp. (grape leafhoppers); *Magicidada septendecim* Linnaeus (periodical cicada); *Icerya purchasi* Maskell (cottony cushion scale), *Quadraspidiotus perniciosus* Comstock (San Jose scale); *Planococcus citri* Risso (citrus mealybug); *Pseudococcus* spp. (other mealybug complex); *Cacopsylla pyricola* Foerster (pear psylla), *Trioza diospyri* Ashmead (persimmon psylla). These compounds also have activity on members from the order Hemiptera including: *Acrosternum hilare* Say (green stink bug), *Anasa tristis* De Geer (squash bug), *Blissus leucopterus leucopterus* Say (chinch bug), *Corythuca gossypii* Fabricius (cotton lace bug), *Cyrtopeltis modesta* Distant (tomato bug), *Dysdercus suturellus* Herrich-Schäffer (cotton stainer), *Euchistus servus* Say (brown stink bug), *Euchistus variolarius* Palisot de Beauvois (one-spotted stink bug), *Graptosthetus* spp. (complex of seed bugs), *Leptoglossus corculus* Say (leaf-footed pine seed bug), *Lygus lineolaris* Palisot de Beauvois (tarnished plant bug), *Nezara viridula* Linnaeus (southern green stink bug), *Oebalus pugnax* Fabricius (rice stink bug), *Oncopeltus fasciatus* Dallas

(large milkweed bug), *Pseudatomoscelis seriatus* Reuter (cotton fleahopper). Other insect orders controlled by compounds of the invention include Thysanoptera (e.g., *Frankliniella occidentalis* Pergande (western flower thrip), *Scirthothrips citri* Moulton (citrus thrip), *Sericothrips variabilis* Beach (soybean thrip), and *Thrips tabaci* Lindeman (onion thrip); and the order Coleoptera (e.g., *Leptinotarsa decemlineata* Say (Colorado potato beetle), *Epilachna varivestis* Mulsant (Mexican bean beetle) and wireworms of the genera *Agriotes*, *Athous* or *Limonius*).

Compounds of this invention can also be mixed with one or more other biologically active compounds or agents including insecticides, fungicides, nematocides, bactericides, acaricides, growth regulators such as rooting stimulants, chemosterilants, semiochemicals, repellents, attractants, pheromones, feeding stimulants, other biologically active compounds or entomopathogenic bacteria, virus or fungi to form a multi-component pesticide giving an even broader spectrum of agricultural utility. Thus compositions of the present invention can further comprise a biologically effective amount of at least one additional biologically active compound or agent. Examples of such biologically active compounds or agents with which compounds of this invention can be formulated are: insecticides such as abamectin, acephate, acetamiprid, avermectin, azadirachtin, azinphos-methyl, bifenthrin, binfenazate, buprofezin, carbofuran, chlorfenapyr, chlorfluazuron, chlorpyrifos, chlorpyrifos-methyl, chromafenozide, clothianidin, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, cypermethrin, cyromazine, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, diofenolan, emamectin, endosulfan, esfenvalerate, ethiprole, fenothicarb, fenoxycarb, fenpropathrin, fenproximate, fenvalerate, fipronil, flonicamid, flucythrinate, tau-fluvalinate, flufenoxuron, fonophos, halofenozide, hexaflumuron, imidacloprid, indoxacarb, isofenphos, lufenuron, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, monocrotophos, methoxyfenozide, nithiazin, novaluron, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, pymetrozine, pyridalyl, pyriproxyfen, rotenone, spinosad, sulprofos, tebufenozide, teflubenzuron, tefluthrin, terbufos, tetrachlorvinphos, thiacloprid, thiamethoxam, thiodicarb, thiosultap-sodium, tralomethrin, trichlorfon and triflumuron; fungicides such as acibenzolar, azoxystrobin, benomyl, blasticidin-S, Bordeaux mixture (tribasic copper sulfate), bromuconazole, carpropamid, captafol, captan, carbendazim, chloroneb, chlorothalonil, copper oxychloride, copper salts, cyflufenamid, cymoxanil, cyproconazole, cyprodinil, (*S*)-3,5-dichloro-*N*-(3-chloro-1-ethyl-1-methyl-2-oxopropyl)-4-methylbenzamide (RH 7281), diclocymet (S-2900), diclomezine, dicloran, difenoconazole, (*S*)-3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-4*H*-imidazol-4-one (RP 407213), dimethomorph, dimoxystrobin, diniconazole, diniconazole-M, dodine, edifenphos, epoxiconazole, famoxadone, fenamidone, fenarimol, fenbuconazole, fencaramid (SZX0722), fenpiclonil, fenpropidin, fenpropimorph, fentin acetate, fentin hydroxide,

fluazinam, fludioxonil, flumetover (RPA 403397), fluquinconazole, flusilazole, flutolanil, flutriafol, folpet, fosetyl-aluminum, furalaxyl, furametapyr (S-82658), hexaconazole, ipconazole, iprobenfos, iprodione, isoprothiolane, kasugamycin, kresoxim-methyl, mancozeb, maneb, mefenoxam, mepronil, metalaxyl, metconazole, metominostrobin/fenominostrobin (SSF-126), myclobutanil, neo-asozin (ferric methanearsonate), oxadixyl, penconazole, pencycuron, probenazole, prochloraz, propamocarb, propiconazole, pyrifenox, pyraclostrobin, pyrimethanil, pyroquilon, quinoxyfen, spiroxamine, sulfur, tebuconazole, tetraconazole, thiabendazole, thifluzamide, thiophanate-methyl, thiram, tiadinil, triadimefon, triadimenol, tricyclazole, trifloxystrobin, triticonazole, validamycin and vinclozolin; nematocides such as aldicarb, oxamyl and fenamiphos; bactericides such as streptomycin; acaricides such as amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, etoxazole, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben and tebufenpyrad; and biological agents such as *Bacillus thuringiensis* including ssp. *aizawai* and *kurstaki*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi.

A general reference for these agricultural protectants is *The Pesticide Manual, 12th Edition*, C. D. S. Tomlin, Ed., British Crop Protection Council, Farnham, Surrey, U.K., 2000.

Of note are combinations of a compound of Formula 1d with the biologically active compounds above.

Preferred insecticides and acaricides for mixing with compounds of this invention include pyrethroids such as cypermethrin, cyhalothrin, cyfluthrin and beta-cyfluthrin, esfenvalerate, fenvalerate and tralomethrin; carbamates such as fenothicarb, methomyl, oxamyl and thiodicarb; neonicotinoids such as clothianidin, imidacloprid and thiacloprid, neuronal sodium channel blockers such as indoxacarb, insecticidal macrocyclic lactones such as spinosad, abamectin, avermectin and emamectin; γ–aminobutyric acid (GABA) antagonists such as endosulfan, ethiprole and fipronil; insecticidal ureas such as flufenoxuron and triflumuron, juvenile hormone mimics such as diofenolan and pyriproxyfen; pymetrozine; and amitraz. Preferred biological agents for mixing with compounds of this invention include *Bacillus thuringiensis* and *Bacillus thuringiensis* delta endotoxin as well as naturally occurring and genetically modified viral insecticides including members of the family Baculoviridae as well as entomophagous fungi. Of note are combinations of a compound of Formula 1d with the preferred insecticides and acaricides above.

Most preferred mixtures include a mixture of a compound of this invention with cyhalothrin; a mixture of a compound of this invention with beta-cyfluthrin; a mixture of a compound of this invention with esfenvalerate; a mixture of a compound of this invention with methomyl; a mixture of a compound of this invention with imidacloprid; a mixture of a

compound of this invention with thiacloprid; a mixture of a compound of this invention with indoxacarb; a mixture of a compound of this invention with abamectin; a mixture of a compound of this invention with endosulfan; a mixture of a compound of this invention with ethiprole; a mixture of a compound of this invention with fipronil; a mixture of a compound of this invention with flufenoxuron; a mixture of a compound of this invention with pyriproxyfen; a mixture of a compound of this invention with pymetrozine; a mixture of a compound of this invention with amitraz; a mixture of a compound of this invention with *Bacillus thuringiensis* and a mixture of a compound of this invention with *Bacillus thuringiensis* delta endotoxin.

In certain instances, combinations with other invertebrate pest control compounds or agents having a similar spectrum of control but a different mode of action will be particularly advantageous for resistance management. Thus, compositions of the present invention can further comprise an biologically effective amount of at least one additional invertebrate pest control compounds or agents having a similar spectrum of control but a different mode of action. Contacting a plant genetically modified to express a plant protection compound (e.g., protein) or the locus of the plant with a biologically effective amount of a compound of invention can also provide a broader spectrum of plant protection and be advantageous for resistance management.

Invertebrate pests are controlled and protection of agronomic, horticultural and specialty crops, animal and human health is achieved by applying one or more of the compounds of this invention, in an effective amount, to the environment of the pests including the agronomic and/or nonagronomic locus of infestation, to the area to be protected, or directly on the pests to be controlled. Thus, the present invention further comprises a method for the control of foliar- and soil-inhabiting invertebrates and protection of agronomic and/or nonagronomic crops, comprising contacting the invertebrates or their environment with a biologically effective amount of one or more of the compounds of the invention, or with a composition comprising at least one such compound or a composition comprising at least one such compound and an effective amount of at least one additional biologically active compound or agent. A preferred method of contact is by spraying. Alternatively, a granular composition comprising a compound of the invention can be applied to the plant foliage or the soil. Compounds of this invention are effective in delivery through plant uptake by contacting the plant with a composition comprising a compound of this invention applied as a soil drench of a liquid formulation, a granular formulation to the soil, a nursery box treatment or a dip of transplants. Other methods of contact include application of a compound or a composition of the invention by direct and residual sprays, aerial sprays, seed coats, microencapsulations, systemic uptake, baits, eartags, boluses, foggers, fumigants, aerosols, dusts and many others.

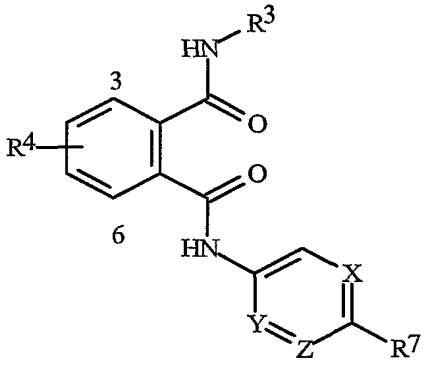
The compounds of this invention can be incorporated into baits that are consumed by the invertebrates or within devices such as traps and the like. Granules or baits comprising between 0.01–5% active ingredient, 0.05–10% moisture retaining agent(s) and 40–99% vegetable flour are effective in controlling soil insects at very low application rates, particularly at doses of active ingredient that are lethal by ingestion rather than by direct contact.

The compounds of this invention can be applied in their pure state, but most often application will be of a formulation comprising one or more compounds with suitable carriers, diluents, and surfactants and possibly in combination with a food depending on the contemplated end use. A preferred method of application involves spraying a water dispersion or refined oil solution of the compounds. Combinations with spray oils, spray oil concentrations, spreader stickers, adjuvants, other solvents, and synergists such as piperonyl butoxide often enhance compound efficacy.

The rate of application required for effective control (i.e. "biologically effective amount") will depend on such factors as the species of invertebrate to be controlled, the pest's life cycle, life stage, its size, location, time of year, host crop or animal, feeding behavior, mating behavior, ambient moisture, temperature, and the like. Under normal circumstances, application rates of about 0.01 to 2 kg of active ingredient per hectare are sufficient to control pests in agronomic ecosystems, but as little as 0.0001 kg/hectare may be sufficient or as much as 8 kg/hectare may be required. For nonagronomic applications, effective use rates will range from about 1.0 to 50 mg/square meter but as little as 0.1 mg/square meter may be sufficient or as much as 150 mg/square meter may be required. One skilled in the art can easily determine the biologically effective amount necessary for the desired level of invertebrate pest control.

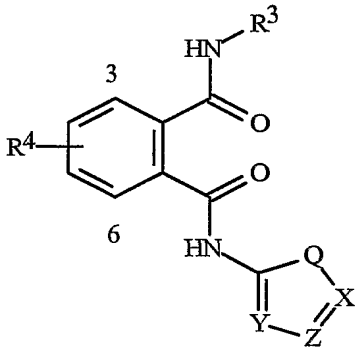
The following TESTS demonstrate the control efficacy of compounds of this invention on specific pests. "Control efficacy" represents inhibition of arthropod development (including mortality) that causes significantly reduced feeding. The pest control protection afforded by the compounds is not limited, however, to these species. See Index Tables A-B for compound descriptions. The following abbreviations are used in the Index Tables which follow: Me is methyl, *i*-Pr is isopropyl, Ph is phenyl. The abbreviation "dec" indicates that the compound appeared to decompose on melting. The abbreviation "Ex." stands for "Example" and is followed by a number indicating in which example the compound is prepared.

INDEX TABLE A



Compound	R^3	R^4	R^7	X	Y	Z	m.p. °C
1 (Ex. 1)	*i*-Pr	3-I	OCH_2CF_3	CH	CH	N	220-225
2 (Ex. 1)	*i*-Pr	6-I	OCH_2CF_3	CH	CH	N	200-203
3	*i*-Pr	3-Me	OCH_2CF_3	CH	CH	N	205-210
4	*i*-Pr	6-Me	OCH_2CF_3	CH	CH	N	193-196

INDEX TABLE B



Compound	R^3	R^4	Q	X	Y	Z	m.p. °C
5	*i*-Pr	3-I	NPh	N	CH	CMe	193-194
6	*i*-Pr	6-I	NPh	N	CH	CMe	216-218
7	*i*-Pr	3-I	NMe	N	CH	CMe	220-222
8	*i*-Pr	6-I	NMe	N	CH	CMe	233-234
9	*i*-Pr	3-I	NMe	N	CH	C-cyclopropyl	222-224
10	*i*-Pr	6-I	NMe	N	CH	C-cyclopropyl	215-217
11(Ex. 2)	*i*-Pr	6-I	N(2-ClPh)	N	CH	CCF_3	234-235
12 (Ex. 2)	*i*-Pr	3-I	N(2-ClPh)	N	CH	CCF_3	226-228

BIOLOGICAL EXAMPLES OF THE INVENTION

TEST A

For evaluating control of diamondback moth (*Plutella xylostella*) the test unit consisted of a small open container with a 12–14-day-old radish plant inside. This was pre-infested with 10–15 neonate larvae on a piece of insect diet by use of a core sampler to remove a plug from a sheet of hardened insect diet having many larvae growing on it and transfer the plug containing larvae and diet to the test unit. The larvae moved onto the test plant as the diet plug dried out.

Test compounds were formulated using a solution containing 10% acetone, 90% water and 300 ppm X-77® Spreader Lo-Foam Formula non-ionic surfactant containing alkylarylpolyoxyethylene, free fatty acids, glycols and isopropanol (Loveland Industries, Inc.), unless otherwise indicated. The formulated compounds were applied in 1 mL of liquid through a SUJ2 atomizer nozzle with 1/8 JJ custom body (Spraying Systems Co.) positioned 1.27 cm (0.5 inches) above the top of each test unit. All experimental compounds in this screen were sprayed at 50 ppm and replicated three times. After spraying of the formulated test compound, each test unit was allowed to dry for 1 hour and then a black, screened cap was placed on top. The test units were held for 6 days in a growth chamber at 25 °C and 70% relative humidity. Plant feeding damage was then visually assessed.

Of the compounds tested, the following provided excellent levels of plant protection (10% or less feeding damage): 1, 2, 3, 4, 6, 7, 9, 10.

TEST B

For evaluating control of fall armyworm (*Spodoptera frugiperda*) the test unit consisted of a small open container with a 4–5-day-old corn (maize) plant inside. This was pre-infested with 10–15 1-day-old larvae on a piece of insect diet by use of a core sampler as described for Test A.

Test compounds were formulated and sprayed at 50 ppm as described for Test A. The applications were replicated three times. After spraying, the test units were maintained in a growth chamber and then visually rated as described for Test A.

Of the compounds tested, the following provided excellent levels of plant protection (10% or less feeding damage): 1, 9.

TEST C

For evaluating control of tobacco budworm (*Heliothis virescens*) the test unit consisted of a small open container with a 6–7 day old cotton plant inside. This was pre-infested with 8 2-day-old larvae on a piece of insect diet by use of a core sampler as described for Test A.

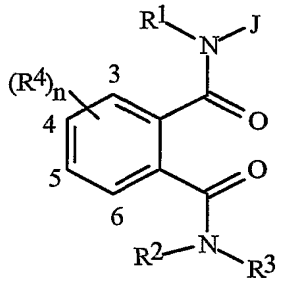
Test compounds were formulated and sprayed at 50 ppm as described for Test A. The applications were replicated three times. After spraying, the test units were maintained in a growth chamber and then visually rated as described for Test A.

Of the compounds tested, the following provided excellent levels of plant protection (10% or less feeding damage): 1, 3, 7, 9.

CLAIMS

What is claimed is:

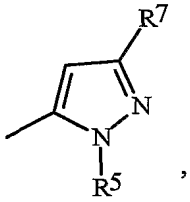
1. A compound of Formula I and *N*-oxides and agriculturally suitable salts thereof



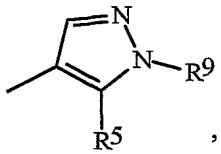
I

wherein

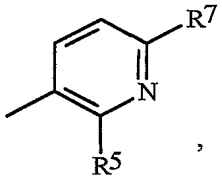
J is selected from the group consisting of J-1, J-2, J-3, J-4, J-5, J-6, J-7 and J-8



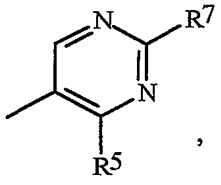
J-1



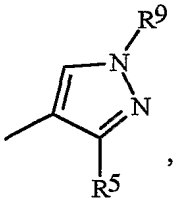
J-2



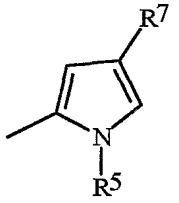
J-3



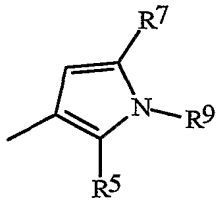
J-4



J-5

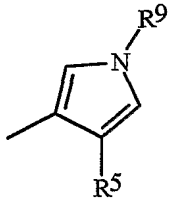


J-6



J-7

and



J-8

;

R^1 is H, C_1-C_6 alkyl, C_2-C_6 alkoxycarbonyl or C_2-C_6 alkylcarbonyl;

R^2 is H or C_1-C_6 alkyl;

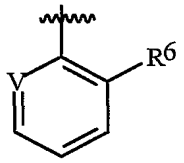
R^3 is H; C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, or C_4-C_8 cycloalkylalkyl, each optionally substituted with one or more substituents selected from the group consisting of halogen, CN, NO_2, hydroxy, C_1-C_4 alkyl,

C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_2-C_6 alkoxycarbonyl or C_2-C_6 alkylcarbonyl;

one R^4 group is attached to the phenyl ring at the 3-position or 6-position, and said R^4 is C_1-C_4 alkyl, C_1-C_4 haloalkyl, halogen, CN, NO_2, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylthio, C_1-C_4 haloalkylsulfinyl, or C_1-C_4 haloalkylsulfonyl; and

an optional second R^4 is H, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_1-C_6 haloalkyl, C_2-C_6 haloalkenyl, C_2-C_6 haloalkynyl, C_3-C_6 halocycloalkyl, halogen, CN, NO_2, hydroxy, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylthio, C_1-C_4 haloalkylsulfinyl, C_1-C_4 haloalkylsulfonyl, C_1-C_4 alkylamino, C_2-C_8 dialkylamino, C_3-C_6 cycloalkylamino, C_1–C_4 alkoxyalkyl, C_1–C_4 hydroxyalkyl, $C(O)R^{10}$, CO_2R^{10}, $C(O)NR^{10}R^{11}$, $NR^{10}R^{11}$, $N(R^{11})COR^{10}$, $N(R^{11})CO_2R^{10}$ or C_3-C_6 trialkylsilyl;

R^5 is H, C_1-C_4 alkyl, C_1-C_4 haloalkyl, or



;

V is N, CH, CF, CCl, CBr or CI;

each R^6 and R^7 is independently H, C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 haloalkyl, halogen, CN, C_1-C_4 alkoxy, C_1-C_4 haloalkoxy or C_1-C_4 haloalkylthio;

R^9 is H, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_3-C_6 alkenyl, C_3-C_6 haloalkenyl, C_3-C_6 alkynyl or C_3-C_6 haloalkynyl; provided R^7 and R^9 are not both H;

R^{10} is H or C_1–C_4 alkyl or C_1–C_4 haloalkyl;

R^{11} is H or C_1–C_4 alkyl; and

n is 1 or 2.

2. The compound of Claim 1 wherein V is N.

3. The compound of Claim 1 wherein V is CH, CF, CCl or CBr.

4. The compound of Claim 2 or Claim 3 wherein

R^1 and R^2 are both H;

R^3 is C_1-C_4 alkyl optionally substituted with halogen, CN, OCH_3, $S(O)_pCH_3$;

one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, CF_3, OCF_3, $OCHF_2$, $S(O)_pCF_3$, $S(O)_pCHF_2$, CN or halogen;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is C_1-C_4 alkyl, C_1-C_4 haloalkyl, halogen or CN;
R^7 is H, CH_3, CF_3, $OCHF_2$ or halogen; and
p is 0, 1 or 2.

5. The compound of Claim 4 wherein
J is J-1;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^7 is halogen or CF_3.

6. The compound of Claim 5 wherein
V is N;
R^3 is methyl, ethyl, isopropyl or tertiary butyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3 or I;
R^6 is Cl or Br; and
R^7 is Br, Cl or CF_3.

7. The compound of Claim 6 selected from the group consisting of:
*N*1-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-methyl-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide,
*N*1-[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1*H*-pyrazol-5-yl]-3-methyl-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide,
*N*1-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-3-iodo-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide, and
*N*1-[1-(3-bromo-1-(3-chloro-2-pyridinyl)-1*H*-pyrazol-5-yl]-3-iodo-*N*2-(1-methylethyl)-1,2-benzenedicarboxamide.

8. The compound of Claim 4 wherein
J is J-2;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^9 is CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

9. The compound of Claim 4 wherein
J is J-3;

R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^7 is halogen or CF_3.

10. The compound of Claim 4 wherein
J is J-4;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^7 is CF_3.

11. The compound of Claim 4 wherein
J is J-5;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^9 is CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

12. The compound of Claim 4 wherein
J is J-6;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br; and
R^7 is halogen or CF_3.

13. The compound of Claim 4 wherein
J is J-7;
R^3 is C_1-C_4 alkyl;
one R^4 group is attached to the K-ring at the 2-position and said R^4 is CH_3, Cl or Br;
a second R^4 is H, F, Cl, Br, I or CF_3;
R^6 is Cl or Br;

R^7 is H, halogen or CF_3.and

R^9 is H, CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

14. The compound of Claim 4 wherein

J is J-8;

R^3 is C_1-C_4 alkyl;

one R^4 group is attached to the phenyl ring at the 3-position and said R^4 is CH_3, Cl, Br or I;

a second R^4 is H, F, Cl, Br, I or CF_3;

R^6 is Cl or Br;

R^7 is H, halogen or CF_3.and

R^9 is H, CF_3, CHF_2, CH_2CF_3, CF_2CHF_2.

15. A composition for controlling an invertebrate pest comprising a biologically effective amount of a compound of Claim 1 and at least one additional component selected from the group consisting of a surfactant, a solid diluent or a liquid diluent.

16. The composition of Claim 15 further comprising an effective amount of at least one additional biologically active compound or agent.

17. The composition of Claim 16 wherein at least one additional biologically active compound or agent is selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, γ–aminobutyric acid (GABA) antagonists, insecticidal ureas and juvenile hormone mimics.

18. The composition of Claim 16 wherein at least one additional biologically active compound or agent is selected from insecticide, nematocide, acaricide or biological agents in the group consisting of abamectin, acephate, acetamiprid, avermectin, azadirachtin, azinphos-methyl, bifenthrin, binfenazate, buprofezin, carbofuran, chlorfenapyr, chlorfluazuron, chlorpyrifos, chlorpyrifos-methyl, chromafenozide, clothianidin, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, cypermethrin, cyromazine, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, diofenolan, emamectin, endosulfan, esfenvalerate, ethiprole, fenothicarb, fenoxycarb, fenpropathrin, fenproximate, fenvalerate, fipronil, flonicamid, flucythrinate, tau-fluvalinate, flufenoxuron, fonophos, halofenozide, hexaflumuron, imidacloprid, indoxacarb, isofenphos, lufenuron, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, monocrotophos, methoxyfenozide, nithiazin, novaluron, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, pymetrozine, pyridalyl, pyriproxyfen, rotenone, spinosad, sulprofos, tebufenozide, teflubenzuron, tefluthrin, terbufos, tetrachlorvinphos, thiacloprid, thiamethoxam, thiodicarb, thiosultap-sodium,

tralomethrin, trichlorfon and triflumuron, aldicarb, oxamyl, fenamiphos, amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, etoxazole, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben, tebufenpyrad; *Bacillus thuringiensis i*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi.

19. The composition of Claim 18 wherein at least one additional biologically active compound or agent is selected from insecticide, nematocide, acaricide or biological agents in the group consisting of cypermethrin, cyhalothrin, cyfluthrin and beta-cyfluthrin, esfenvalerate, fenvalerate, tralomethrin, fenothicarb, methomyl, oxamyl, thiodicarb, clothianidin, imidacloprid, thiacloprid, indoxacarb, spinosad, abamectin, avermectin, emamectin, endosulfan, ethiprole, fipronil, flufenoxuron, triflumuron, diofenolan, pyriproxyfen, pymetrozine, amitraz, *Bacillus thuringiensis*, *Bacillus thuringiensis* delta endotoxin and entomophagous fungi.

20. A method for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biologically effective amount of a compound of Claim 1 or a composition of Claim 17.